

1 are planning continued capital expenditures in the near term, and for which access
2 to capital to fund such required expenditures will be critical.

3 Q. HOW DID YOU ESTIMATE THE SIZE OF THE EFFECT OF FLOTATION
4 COST ON INVESTOR RETURNS?

5 A. I modified the DCF calculation to provide a dividend yield that would reimburse
6 investors for issuance costs. The estimate of flotation costs recognizes the costs of
7 issuing equity that were incurred by CNP and the proxy companies in their most
8 recent two issuances. As shown in Exhibit RBH-7, an adjustment of 0.09 percent
9 (i.e., 9 basis points) reasonably represents flotation costs for the Company.

10 Q. IS THE NEED TO CONSIDER FLOTATION COSTS RECOGNIZED BY THE
11 ACADEMIC AND FINANCIAL COMMUNITIES?

12 A. Yes. The need to reimburse investors for equity issuance costs is recognized by the
13 academic and financial communities in the same spirit that investors are reimbursed
14 for the costs of issuing debt. For example, Dr. Morin notes that “[t]he costs of
15 issuing [common stock] are just as real as operating and maintenance expenses or
16 costs incurred to build utility plants, and fair regulatory treatment must permit the
17 recovery of these costs.”⁵² Dr. Morin further notes that “equity capital raised in a
18 given stock issue remains on the utility’s common equity account and continues to
19 provide benefits to ratepayers indefinitely.”⁵³ This treatment is consistent with the
20 philosophy of a fair rate of return. As explained by Dr. Shannon Pratt:

21 Flotation costs occur when a company issues new stock. The
22 business usually incurs several kinds of flotation or transaction
23 costs, which reduce the actual proceeds received by the business.
24 Some of these are direct out-of-pocket outlays, such as fees paid to

⁵² Roger A. Morin, New Regulatory Finance, Public Utility Reports, Inc. at 321, 2006.

⁵³ *Id.* at 327.

1 underwriters, legal expenses, and prospectus preparation costs.
 2 Because of this reduction in proceeds, the business's required
 3 returns must be greater to compensate for the additional costs.
 4 Flotation costs can be accounted for either by amortizing the cost,
 5 thus reducing the net cash flow to discount, or by incorporating the
 6 cost into the cost of equity capital. Since flotation costs typically
 7 are not applied to operating cash flow, they must be incorporated
 8 into the cost of equity capital.⁵⁴

9 Similarly, Morningstar has commented on the need to reflect flotation costs in the
 10 cost of capital:

11 Although the cost of capital estimation techniques set forth later in
 12 this book are applicable to rate setting, certain adjustments may be
 13 necessary. One such adjustment is for flotation costs (amounts that
 14 must be paid to underwriters by the issuer to attract and retain
 15 capital).⁵⁵

16 Q. HAS CNP RECENTLY COMPLETED AN EQUITY ISSUANCE?

17 A. Yes, it has. CNP completed the issuance of approximately \$1.9 billion of common
 18 stock on October 1, 2018, incurring flotation costs of 281 basis points.⁵⁶ The
 19 proceeds from the issuance will be used to fund CNP's merger with Vectren
 20 Corporation. The merger was completed on February 1, 2019.⁵⁷

21 Q. DO YOU AGREE WITH THE COMMISSION THAT A FLOTATION COST
 22 ADJUSTMENT IS APPROPRIATE ONLY WHEN THE CAPITAL USED IN AN
 23 EQUITY INFUSION IS GENERATED BY A STOCK ISSUANCE?⁵⁸

24 A. I respectfully disagree with the Commission's position on that point. Unlike debt,
 25 equity has no specific life; it is not extinguished or retired, and remains on the

⁵⁴ Shannon P. Pratt, Roger J. Grabowski, Cost of Capital: Applications and Examples, 4th Ed. at 586 (John Wiley & Sons, Inc., 2010).

⁵⁵ Morningstar, Inc. Ibbotson SBBI 2013 Valuation Yearbook at 25.

⁵⁶ See, Exhibit RBH-7

⁵⁷ CenterPoint Energy, Inc., SEC Form 8-K, February 1, 2019.

⁵⁸ *Application of Southwestern Electric Power Company for Authority to Change Rates and Reconcile Fuel Costs*, Docket No. 40443, Order on Rehearing at 11-12, Mar. 6, 2013.

1 balance sheet indefinitely. Consequently, common equity continues to support the
 2 rate base and provide benefits to ratepayers beyond a given amortization period.
 3 Because the acquired equity is net of issuance costs, the return on that equity also
 4 will be diluted in perpetuity. The method provided in Exhibit RBH-7 specifically
 5 acknowledges the perpetual nature of common stock, and is meant to address the
 6 perpetual dilution of the shareholders' investment due to issuance costs.

7 Additionally, and as discussed above, CenterPoint Houston's parent
 8 company recently completed an equity issuance. To the extent the Company's
 9 return on equity is diluted due to the funds needed to complete the merger with
 10 Vectren Corporation, I believe a flotation cost adjustment is appropriate in this
 11 circumstance.

12 Q. HAVE COMMISSIONS IN OTHER REGULATORY JURISDICTIONS
 13 RECOGNIZED FLOTATION COSTS WHEN DETERMINING THE
 14 AUTHORIZED ROE?

15 A. Yes, they have. FERC, along with regulatory commissions in jurisdictions such as
 16 Arkansas, Connecticut, and Mississippi have recognized flotation costs when
 17 determining the authorized ROE.⁵⁹ Although the method by which flotation costs
 18 are reflected in rates may vary (e.g., implicit versus explicit basis point increases to
 19 authorized ROE), the recognition of those costs is not limited to, or constrained by

⁵⁹ See, for example, *Golden Spread Electric Cooperative, Inc., v. Southwestern Public Service Company*, Opinion No. 501, 123 FERC ¶ 61,0047 (2008); Arkansas Public Service Commission, Docket No. 04-176-U, *In the Matter of the Application of Arkansas Western Gas Company for Approval of a General Change in Rates and Tariffs*, Order No. 6 at 34, Oct. 31, 2005; Connecticut Public Utilities Regulatory Authority, Docket No. 14-05-06, *Application of the Connecticut Light and Power Company to Amend Rate Schedules*, Decision at 133-134, 145 (Table 64), and 223 (PP 280-281), Dec. 17, 2014; Mississippi Public Service Commission, Docket No. 01-UN-0548, *Notice of Intent of Mississippi Power Company to Change Rates for Electric Service in its Certificated Areas in the Twenty-Three Counties of Southeast Mississippi*, Final Order at 26, Dec. 3, 2001.

1 recent equity issuances. For instance, the Arkansas Commission stated that
2 “including some level of valid, sustainable, measurable, and material flotation costs
3 in equity return is appropriate.”⁶⁰

4 Q. ARE YOU PROPOSING TO ADJUST YOUR RECOMMENDED ROE BY 9
5 BASIS POINTS TO REFLECT THE EFFECT OF FLOTATION COSTS ON
6 CENTERPOINT HOUSTON’S ROE?

7 A. No. Rather I have considered the effect of flotation costs, in addition to the
8 Company’s other business risks (discussed below) in determining where the
9 Company’s ROE falls within the range of results.

10 **V. BUSINESS RISKS AND OTHER CONSIDERATIONS**

11 **A. Customer Concentration**

12 Q. DID YOU CONSIDER ISSUES WITH RESPECT TO THE ELECTRIC
13 RELIABILITY COUNCIL OF TEXAS’ (“ERCOT”) MARKET STRUCTURE
14 THAT MAY AFFECT THE COMPANY’S BUSINESS RISK?

15 A. Yes. Unlike other companies in my proxy group, subsidiaries of which each serve
16 thousands, if not millions, of customers, CenterPoint Houston’s customers consist
17 of approximately 65 REPs.⁶¹ Affiliates of NRG Energy, Inc. (“NRG”) and Vistra
18 Energy Corp. (“Vistra”) were responsible for 34.00 percent and 12.00 percent of
19 revenues, respectively, in 2018. Although the Commission recently updated its
20 credit requirements for REPs with below investment-grade credit ratings, including

⁶⁰ *Id.*

⁶¹ CenterPoint Energy, Inc., SEC Form 10-K at 25 for fiscal year end December 31, 2018.

1 stand-by letters of credit,⁶² there remains a high degree of customer concentration
 2 and, consequently, a relatively high risk of suffering an adverse financial effect
 3 following an event of default by one or more of these customers. On that point
 4 NRG and Vistra both are rated below investment grade (each with ratings of BB,
 5 outlook: Stable) by S&P.⁶³

6 Q. HAVE ANY REPS DEFAULTED IN THE PAST?

7 A. Yes, REP default is not uncommon. In May and June 2008, five ERCOT REPs
 8 defaulted on payments to ERCOT following a period of unusually high congestion
 9 and high prices. The Commission subsequently revoked the operating certificates
 10 of four of those REPS.⁶⁴ As recently as May 2018, Breeze Energy LLC (“Breeze”)
 11 entered in financial default.⁶⁵ Breeze was active in the Houston area and served
 12 approximately 9,800 customers.

13 Q. HOW DOES CENTERPOINT HOUSTON’S HIGH CUSTOMER
 14 CONCENTRATION AFFECT ITS BUSINESS RISK?

15 A. I understand that the Commission took steps in 2009, and as recently as April 2018
 16 (see above), to increase the financial qualifications of REPs, and to allow the
 17 deferral of bad debt from REP defaults. However, if just one of CenterPoint
 18 Houston’s larger customers were to declare bankruptcy, or were to delay or default

⁶² Public Utility Commission of Texas, *Rulemaking to Amend Chapter 23 Substantive Rules Relating to the Elimination of the System Benefit Fund*, Order at 172-173, Adopting Amendments To §§ 25.5, 25.41, 25.43, 25.107, 25.181, 25.344, 25.431, 25.475, 25.478, 25.479, 25.480, 25.491, 25.497, 25.498, Repeal of §§ 25.451, 25.453, 25.454, 25.455, and 25.457, and New § 25.45 as approved at the April 12, 2018 Open Meeting, April 13, 2018.

⁶³ Source: Bloomberg Professional Services. Moody’s does not maintain an issuer rating for Vistra or NRG.

⁶⁴ *ERCOT Texas’s Competitive Power Experience* at 43, Susan Tierney, Analysis Group, October 2008.

⁶⁵ Mark Watson, *Texas electricity retailer defaults, prompting switch of 9,800 customers*, S&P Global Market Intelligence, June 1, 2018.

1 on its obligations, the Company's financial profile may be adversely affected.⁶⁶ If
2 any REP were to declare bankruptcy, that REP may be able to delay or avoid its
3 obligations to CenterPoint Houston, while creditors of that REP may seek to
4 recover payments that the REP has made to CenterPoint Houston. That potentially
5 adverse effect on cash flow is a significant source of risk for the Company's equity
6 investors.

7 Q. HAS THE COMMISSION BEEN HELPFUL IN MITIGATING THIS DEFAULT
8 RISK?

9 A. Yes, the Commission has enacted rules that allow the Company, or any TDU in the
10 Commission's jurisdiction, to create a regulatory asset to recover the bad debt in
11 the event of default by a REP.⁶⁷ Still, the Company remains at risk for the costs
12 associated with carrying this regulatory asset until rates can be adjusted in the next
13 rate case. If a REP such as NRG or Vistra were to default, CenterPoint Houston
14 would have to finance very large costs until the effective date of its next rate case.
15 This creates cash flow issues for the Company, and further risk to its equity
16 investors. In addition, the timeframe for recovery (i.e., amortization) of the
17 regulatory asset is subject to the merits of the next rate case, which creates further
18 uncertainty and equity risk. Lastly, to the extent this regulatory asset is not included
19 in rate base, the Company foregoes the carrying charge (or "return on") component
20 of recovery, which results in a net present value loss to the Company, which its
21 shareholders bear.

⁶⁶ CenterPoint Energy, Inc., SEC Form 10-K at 25 for the fiscal year end December 31, 2018.

⁶⁷ 16 TAC § 25.107(f)(3)(B).

B. Geographic and Weather-Related Risks

Q. PLEASE DESCRIBE THE RISK ASSOCIATED WITH SEVERE WEATHER ACTIVITY IN CENTERPOINT HOUSTON'S SERVICE TERRITORY.

A. CenterPoint Houston faces the risk of sudden, unexpected damage from severe storms. The incidence of hurricanes, such as Ike in 2008 and Harvey in 2017, indicate that CenterPoint Houston's operating area has a high risk of incurring weather-related infrastructure repair costs and service disruptions; the Company incurred over \$600 million in storm recovery in connection with Hurricane Ike, and approximately \$117 million due to Hurricane Harvey.⁶⁸ In addition to the need to fund repair costs, severe weather causes the Company to incur unplanned expenses and results in lower sales due to damage of transmission and distribution infrastructure. Together, these effects can reduce CenterPoint Houston's revenue, put strain on the Company's operating cash flow, and highlight the need for financial liquidity and flexibility.

Following Hurricane Harvey, CenterPoint Houston recovered approximately \$24 million of its restoration costs through insurance proceeds, deferring remaining (estimated) costs of approximately \$93 million.⁶⁹ Although the Company believes it is probable those costs will be recovered through base rate proceedings with no material effect on its earnings, the deferred recovery does not address the cash flow and financial liquidity required to fund those costs as they are incurred.

⁶⁸ CenterPoint Energy Houston Electric, LLC, SEC Form 10-K at 6 for fiscal year end December 31, 2009; See Direct Testimony of Robert B. McRae.

⁶⁹ See Direct Testimony of Robert B. McRae; CenterPoint Energy, Inc., SEC Form 10-K at 91 for fiscal year end December 31, 2017.

1 As capital-intensive operations, utilities often are cash flow neutral or
2 negative entities, requiring access to short-term credit markets to fund day-to-day
3 operations with the short-term capital typically “termed out” with permanent
4 financing (equity and/or long-term debt as the situation may merit). If CenterPoint
5 Houston is not able to fully rely on insurance proceeds to mitigate the effects of
6 adverse weather events, or to provide timely cash flow to fund inevitable storm
7 damage (given its coastal location), the Company and its shareholders bear the
8 initial strain that results from lesser storms (under \$100 million). For eligible storm
9 restoration costs over \$100 million, the Company may pursue securitization
10 through the System Restoration Charge mechanism, but the Company must initially
11 fund those costs with internal cash flows, which may be insufficient and likely
12 would require access to short-term credit.⁷⁰

13 Q. DOES THE SECURITIZATION OF SYSTEM RESTORATION COSTS
14 REMOVE ALL RISKS ASSOCIATED WITH WEATHER EVENTS?

15 A. No, it does not. It is true that by allowing the Company to convert the expected
16 cash flows into a single up-front payment, securitization reduces the delay in cost-
17 recovery. Still, given the potential magnitude of funds needed for storm recovery
18 and the liquidity strain as the Company completes the securitization process, there
19 are remaining risks.

20 Q. HAVE THE CREDIT RATING AGENCIES COMMENTED ON WEATHER-
21 RELATED RISKS?

⁷⁰ While the Company may issue storm restoration bonds, issuance is not guaranteed, or subsequently may not occur in a timely manner.

1 A. Yes. A November 8, 2018 article by Standard & Poor's ("S&P") stressed the
 2 importance of regulatory mechanisms as one means of mitigating risk due to
 3 adverse weather conditions, noting "[w]ithout the appropriate regulatory compact
 4 and other risk mitigation, the financial aftermath of these events could be
 5 devastating to any individual utility, adding another layer of unpredictability that
 6 utilities must effectively manage."⁷¹ In summary, rating agencies view regulatory
 7 mechanisms as positive, but recognize the potentially negative financial
 8 consequences of weather events, even considering cost recovery structures.

9 Q. PLEASE DESCRIBE THE SECURITIZATION PROCESS AS IT APPLIES TO
 10 CENTERPOINT HOUSTON.

11 A. Securitization is the process of converting a known stream of cash payments in the
 12 future into a single up-front cash payment. In the case of CenterPoint Houston,
 13 future cash payments typically are Commission-approved, non-bypassable
 14 customer charges used to recover costs previously expended by the Company. The
 15 securitization process involves directing those known future cash payments to a
 16 bankruptcy-remote subsidiary, and causing that subsidiary to issue bonds backed,
 17 or "securitized," by the payment stream. Because the presiding commission has
 18 provided explicit *ex ante* approval to create a specific customer charge, and because
 19 this payment stream will flow directly to the newly-formed subsidiary, the
 20 subsidiary generally is considered to have considerably lower default risk than the
 21 utility itself, enabling it to issue bonds at a lower cost than the utility's cost of debt.

⁷¹ S&P Global Ratings, *Can U.S. Utilities Weather The Storm?* at 1, November 8, 2018 [clarification added].

1 To complete the securitization process, the Company first must measure its
2 recoverable costs, then make a filing with the Commission for the recovery of those
3 costs, an often-contested process. The Commission then must approve the
4 Company's application for issuance of securitization bonds. In the Company's
5 experience, it could take up to a year to complete this multi-step process. During
6 that period, the Company must provide the financial liquidity needed to fund its
7 recoverable costs until they are securitized. The Company's shareholders absorb
8 the capital carrying costs, inherent risk, and credit strain during that process.

9 Q. WHAT DO YOU CONCLUDE ABOUT THE COMPANY'S RISK INHERENT
10 IN THE SECURITIZATION PROCESS?

11 A. Although the securitization process may reduce costs, it is time-consuming and
12 leaves the Company susceptible to strains on liquidity, as it must fund costs
13 incurred during the cost recovery process, including the securitization approval and
14 bond issuance process. To the extent other liquidity needs arise, or the Company's
15 access to credit markets is impeded, it may be forced to fund those requirements
16 with more expensive sources of capital.

17 **C. Regulatory Mechanisms and Capital Spending**

18 Q. DOES THE COMPANY HAVE IN PLACE SPECIFIC CAPITAL TRACKING
19 MECHANISMS?

20 A. Yes. The Company currently has in place a Transmission Cost of Service
21 ("TCOS") mechanism and a Distribution Cost Recovery Factor ("DCRF")
22 mechanism.

1 Q. ARE ALTERNATIVE REGULATION MECHANISMS COMMON AMONG
2 THE PROXY GROUP COMPANIES?

3 A. Yes, they are. Exhibit RBH-8 provides a summary of alternative regulation
4 mechanisms and cost trackers currently in effect at each electric utility subsidiary
5 of the proxy group companies. As Exhibit RBH-8 demonstrates, recovery
6 mechanisms are common among the proxy companies. Under the comparable
7 earnings standard the allowed Return on Equity should represent a return
8 commensurate with the returns on investments of similar risk. To the extent the
9 proxy companies have mechanisms in place to address revenue shortfalls or cost
10 recovery, the Company's use of TCOS and DCRF mechanisms make it more
11 comparable to its peers.

12 Q. PLEASE DESCRIBE THE COMPANY'S TRANSMISSION COST OF
13 SERVICE MECHANISM.

14 A. The TCOS mechanism is an adjustment that the Company may file twice per
15 calendar year to reflect changes to transmission invested capital in its rates.⁷²

16 Q. PLEASE DESCRIBE THE COMPANY'S DISTRIBUTION COST RECOVERY
17 FACTOR.

18 A. Like the Company's TCOS, the DCRF is an interim adjustment to rates to account
19 for changes in distribution invested capital without the need to file a full rate case.
20 Unlike the TCOS, the Company is permitted to make one DCRF filing per calendar
21 year.

⁷² *Rulemaking Proceeding to Amend PUC SUBST. R. 25.192(g), Relating to Transmission Service Rates, Project No. 37519, Proposal for Publication of Amendment §25.192 as Approved at the January 29, 2009 Open Meeting.*

1 Q. IS THE TIMELINESS OF RECOVERY AFFORDED BY THE COMPANY'S
2 TRACKERS OF CONCERN TO INVESTORS?

3 A. Yes. Although the capital recovery mechanisms discussed above are viewed
4 positively by the investment community,⁷³ of concern is the effect of the regulatory
5 lag given the Company's proposed capital spending program. CenterPoint Houston
6 currently plans to invest over \$5.14 billion during the period including 2019-
7 2023.⁷⁴ That amount includes expenditures in both transmission and distribution
8 facilities and to maintain safe, sufficient, and reliable service. As the Company
9 moves forward with its capital spending plan, retained earnings will be an important
10 source of funding in mitigating the delay of capital recovery and executing its
11 capital spending program.⁷⁵

12 Q. PLEASE ELABORATE ON THE COMPANY'S NEED TO RELY ON
13 RETAINED EARNINGS.

14 A. It is particularly important for utilities to fund capital investments with internally
15 generated cash flow. Since 2013, however, CenterPoint Houston's ratio of cash
16 flow from operating activities to capital expenditures has remained considerably
17 below its peers (*see* Chart 6, below). Because its cash flows have been less able to
18 support its capital investment, the Company must access external capital, increasing
19 the potential for negative credit consequences.⁷⁶

20 **Chart 6: Historical Cash Flow from Operating Activities to**

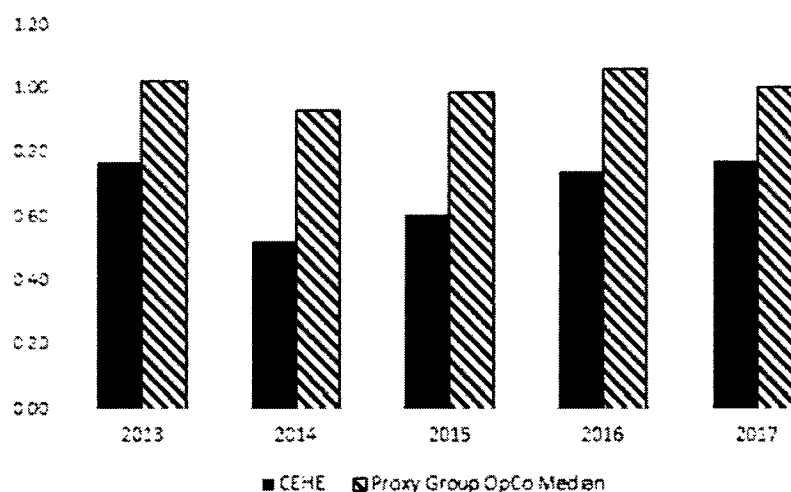
⁷³ See, for example Moody's Investor Service, *Update to Credit Analysis: CenterPoint Energy Houston Electric, LLC*, June 19, 2018; FitchRatings, *CenterPoint Houston Electric, LLC*, April 13, 2018.

⁷⁴ See, CenterPoint Energy, Inc., SEC Form 10-K at 68 for fiscal year end December 31, 2018.

⁷⁵ Moody's Investor Service, *Update to Credit Analysis: CenterPoint Energy Houston Electric, LLC* at 2, June 19, 2018.

⁷⁶ *Id.* As discussed in Section III, the TCJA will further constrain the Company's ability to fund capital investments with internally generated funds.

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Capital Expenditures⁷⁷

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Retained earnings is an important funding mechanism in that net income is a primary source of operating cash flow, which reduces the Company's need to rely on external capital.⁷⁸ As shown above, however, the Company's capital expenditures have considerably exceeded its operating cash flow.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF CENTERPOINT HOUSTON'S CAPITAL INVESTMENT PLAN AND THE ASSOCIATED RECOVERY MECHANISMS?

A. CenterPoint Houston's capital expenditure plan is significantly larger than its internally generated cash, likely placing downward pressure on its free cash flow, and credit profile. The Company's capital recovery mechanisms are important to continue to provide retained earnings as a funding source for the Company to avoid equity capital market risk. Although the Company's recovery mechanisms may be

⁷⁷ Source: S&P Global Market Intelligence.

⁷⁸ Moody's Investor Service, *Update to Credit Analysis: CenterPoint Energy Houston Electric, LLC* at 2, June 19, 2018, which discusses the importance of using retained earnings to support capital spending as a credit positive.

1 credit supportive, they are not necessarily credit enhancing. Consequently, the
2 Commission's decision in this proceeding will directly affect the Company's ability
3 to fund capital investments with operating cash flows, and the financial
4 community's view of its financial profile.

5 **VI. CAPITAL STRUCTURE**

6 Q. WHAT IS THE COMPANY'S PROPOSED CAPITAL STRUCTURE?

7 A. As described in the Direct Testimony of Mr. McRae, the Company proposes a
8 capital structure of 50.00 percent common equity and 50.00 percent long-term
9 debt.⁷⁹

10 Q. HOW DOES THE CAPITAL STRUCTURE AFFECT THE COST OF EQUITY?

11 A. The capital structure relates to a company's financial risk, which represents the risk
12 that a company may not have adequate cash flows to meet its financial obligations,
13 and is a function of the percentage of debt (or financial leverage) in its capital
14 structure. In that regard, as the percentage of debt in the capital structure increases,
15 so do the fixed obligations for the repayment of that debt. Consequently, as the
16 degree of financial leverage increases, the risk of financial distress (i.e., financial
17 risk) also increases.

18 Q. IS THERE SUPPORT FOR THE PROPOSITION THAT THE CAPITAL
19 STRUCTURE IS A KEY CONSIDERATION IN ESTABLISHING AN
20 APPROPRIATE RETURN ON EQUITY?

21 A. Yes. Dr. Roger Morin states:

22 [t]he mix of debt and equity employed in computing the weighted
23 average cost of capital influences the return required by debt and
24 equity capital suppliers. For example, increasing the proportion of

⁷⁹ See Direct Testimony of Robert B. McRae.

1 low-cost debt financing lowers the overall cost of capital but
 2 increases the financial risk of the company to the detriment of
 3 shareholders who require a higher return in compensation for the
 4 increased risk. As the utility employs relatively more debt capital,
 5 the low-cost advantage of debt may be more than offset by the
 6 increased cost of equity.⁸⁰

7 Because the capital structure can affect the subject company's overall level of risk,
 8 it is an important consideration in establishing a fair rate of return: The higher the
 9 proportion of senior capital in the capital structure, the higher the financial risk that
 10 must be factored into the Cost of Equity.

11 The Commission also has recognized the interrelationship between the level
 12 of debt in the utility's capital structure and the authorized ROE. In Docket
 13 No. 22355, for example, the Commission concluded that as a general proposition,
 14 "...an increase in debt should result in an increase in ROE unless offset by lower
 15 business risk."⁸¹

16 Q. PLEASE DISCUSS THE ANALYSIS OF THE CAPITAL STRUCTURES OF
 17 THE PROXY COMPANIES.

18 A. I calculated the average capital structure for each of the proxy companies over the
 19 last eight quarters. As shown in Exhibit RBH-9, the mean of the proxy group actual
 20 capital structures is 53.28 percent common equity and 46.72 percent long-term
 21 debt. The common equity ratios range from 46.73 percent to 62.16 percent. Based
 22 on that review, it is apparent that the Company's proposed capital structure in this
 23 case is generally consistent with the capital structures of the proxy companies.

⁸⁰ Roger A. Morin, *New Regulatory Finance* at 25, Public Utilities Report, Inc., 2006.

⁸¹ *Application of Reliant Energy for Approval of Unbundled Cost of Service Rate Pursuant to PURA § 39.201 and Public Utility Commission Substantive Rule § 25.344*, Docket No. 22355, Order at 26 (Oct. 4, 2001).

1 Q. WHAT IS YOUR CONCLUSION REGARDING THE APPROPRIATE
2 CAPITAL STRUCTURE FOR CENTERPOINT HOUSTON?

3 A. Considering the range of proxy company equity ratios as well as the average actual
4 equity ratio of 53.28 percent for the proxy companies, I believe that CenterPoint
5 Houston's proposed common equity ratio of 50.00 percent in this case is
6 appropriate.

7 **VII. CONCLUSIONS AND RECOMMENDATION**

8 Q. WHAT IS YOUR CONCLUSION REGARDING THE COMPANY'S COST OF
9 EQUITY?

10 A. As discussed throughout my Direct Testimony, it is prudent and appropriate to
11 consider multiple methodologies to arrive at an ROE recommendation for
12 CenterPoint Houston. To that point, in the current capital market environment
13 Constant Growth DCF-based models should be viewed with caution, because they
14 do not adequately reflect changing capital market conditions and high levels of
15 instability, whereas Risk Premium-based methods directly reflect such changes and
16 measures of risk. As such, I have given somewhat more weight to the Risk
17 Premium-based methods in arriving at my ROE recommendation.

18 I believe that a rate of return on common equity in the range of 10.00 percent
19 to 10.75 percent represents the range of equity investors' required rate of return for
20 investment in electric utilities similar to CenterPoint Houston in today's capital
21 markets. Within that range, I believe that an ROE of 10.40 percent is reasonable
22 and appropriate.

1 Q. WHAT IS YOUR CONCLUSION REGARDING THE COMPANY'S CAPITAL
2 STRUCTURE AND COST OF DEBT?

3 A. I conclude that the Company's proposed capital structure in this case, which
4 consists of 50.00 percent common equity and 50.00 percent long-term debt, is
5 consistent with industry practice and on that basis, is reasonable and appropriate.

6 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

7 A. Yes, it does.

APPENDIX A

A. Constant Growth DCF Model

Q. PLEASE BRIEFLY DESCRIBE THE CONSTANT GROWTH DCF MODEL.

A. The Constant Growth DCF approach is based on the theory that a stock's current price represents the present value of all expected future cash flows. In its simplest form, the Constant Growth DCF model expresses the Cost of Equity as the discount rate that sets the current price equal to expected cash flows:

$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_t}{(1+k)^t} \quad [4]$$

where P_0 represents the current stock price, $D_1 \dots D_t$ represent expected future dividends, and k is the discount rate, or required ROE. Equation [4] is a standard present value calculation that can be simplified and rearranged into the familiar form:

$$k = \frac{D(1+g)}{P_0} + g \quad [5]$$

Equation [5] often is referred to as the "Constant Growth DCF" model, in which the first term is the expected dividend yield and the second term is the expected long-term growth rate.

Q. WHAT ASSUMPTIONS ARE REQUIRED FOR THE CONSTANT GROWTH DCF MODEL?

A. The Constant Growth DCF model assumes: (1) earnings, book value, and dividends all grow at the same, constant rate in perpetuity; (2) the dividend payout ratio remains constant; (3) the P/E multiple remains constant in perpetuity; and (4) the discount rate is greater than the expected growth rate, and remains constant over time.

1 Q. WHAT MARKET DATA DID YOU USE TO CALCULATE THE DIVIDEND
2 YIELD COMPONENT OF YOUR DCF MODEL?

3 A. The dividend yield is based on the proxy companies' current annualized dividend,
4 and average closing stock prices over the 30-, 90-, and 180-trading day periods as
5 of February 15, 2019.

6 Q. WHY DID YOU USE THREE AVERAGING PERIODS TO CALCULATE AN
7 AVERAGE STOCK PRICE?

8 A. I did so to ensure the model's results are not skewed by anomalous events that may
9 affect stock prices on any given trading day. At the same time, the averaging period
10 should be reasonably representative of expected capital market conditions over the
11 long term. In my view, using 30-, 90-, and 180-day averaging periods reasonably
12 balances those concerns.

13 Q. DID YOU MAKE ANY ADJUSTMENTS TO THE DIVIDEND YIELD TO
14 ACCOUNT FOR PERIODIC GROWTH IN DIVIDENDS?

15 A. Yes, I did. Because utilities increase their quarterly dividends at different times
16 throughout the year, it is reasonable to assume that dividend increases will be
17 evenly distributed over calendar quarters. Given that assumption, it is appropriate
18 to calculate the expected dividend yield by applying one-half of the long-term
19 growth rate to the current dividend yield.⁸² That adjustment ensures that the
20 expected dividend yield is, on average, representative of the coming twelve-month
21 period, and does not overstate the dividends to be paid during that time.

⁸² See Exhibit RBH-1.

1 Q. IS IT IMPORTANT TO SELECT APPROPRIATE MEASURES OF LONG-
2 TERM GROWTH IN APPLYING THE DCF MODEL?

3 A. Yes. In its Constant Growth form, the DCF model (i.e., as presented in Equation
4 [5] above) assumes a single growth estimate in perpetuity. Accordingly, to reduce
5 the long-term growth rate to a single measure, we must assume a fixed payout ratio,
6 and the same constant growth rate for earnings per share ("EPS"), dividends per
7 share, and book value per share. Because dividend growth can only be sustained
8 by earnings growth, the model should incorporate a variety of measures of long-
9 term earnings growth. That can be accomplished by averaging measures of long-
10 term growth that tend to be least influenced by capital allocation decisions that
11 companies may make in response to near-term changes in the business
12 environment. Because such decisions may directly affect near-term dividend
13 payout ratios, estimates of earnings growth are more indicative of long-term
14 investor expectations than are dividend growth estimates. For the purposes of the
15 Constant Growth DCF model, therefore, growth in EPS represents the appropriate
16 measure of long-term growth.

17 Q. PLEASE SUMMARIZE THE FINDINGS OF ACADEMIC RESEARCH ON
18 THE APPROPRIATE MEASURE OF GROWTH FOR ESTIMATING EQUITY
19 RETURNS USING THE DCF MODEL.

20 A. The relationship between various growth rates and stock valuation metrics has been
21 the subject of much academic research.⁸³ As noted over 40 years ago by Charles
22 Phillips in The Economics of Regulation:

⁸³ See, Harris, Robert, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return*, *Financial Management* (Spring 1986).

1 For many years, it was thought that investors bought utility stocks
 2 largely on the basis of dividends. More recently, however, studies
 3 indicate that the market is valuing utility stocks with reference to
 4 total per share earnings, so that the earnings-price ratio has assumed
 5 increased emphasis in rate cases.⁸⁴

6 Subsequent academic research clearly and consistently indicated that measures of
 7 earnings and cash flow are strongly related to returns, and that analysts' forecasts
 8 of growth are superior to other measures of growth in predicting stock prices.⁸⁵ For
 9 example, Vander Weide and Carleton state that "[our] results ... are consistent with
 10 the hypothesis that investors use analysts' forecasts, rather than historically
 11 oriented growth calculations, in making stock buy-and-sell decisions."⁸⁶ Other
 12 research specifically notes the importance of analysts' growth estimates in
 13 determining the Cost of Equity, and in the valuation of equity securities. Dr. Robert
 14 Harris noted that "a growing body of knowledge shows that analysts' earnings
 15 forecasts are indeed reflected in stock prices."⁸⁷ Citing Cragg and Malkiel,
 16 Dr. Harris notes that those authors "found that the evaluations of companies that
 17 analysts make are the sorts of ones on which market valuation is based."⁸⁸
 18 Similarly, Brigham, Shome, and Vinson noted that "evidence in the current

⁸⁴ Charles F. Phillips, Jr., The Economics of Regulation, at 285 (Rev. ed. 1969).

⁸⁵ See, e.g., Christofi, Christofi, Lori and Moliver, *Evaluating Common Stocks Using Value Line's Projected Cash Flows and Implied Growth Rate*, Journal of Investing (Spring 1999); Harris and Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts*, Financial Management, 21 (Summer 1992); and Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management (Spring 1988).

⁸⁶ Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management (Spring 1988). The Vander Weide and Carleton study was updated in 2004 under the direction of Dr. Vander Weide. The results of the updated study were consistent with the original study's conclusions.

⁸⁷ Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return*, Financial Management (Spring 1986).

⁸⁸ *Id.*

1 literature indicates that (i) analysts' forecasts are superior to forecasts based solely
2 on time series data, and (ii) investors do rely on analysts' forecasts."⁸⁹

3 To that point, the research of Carleton and Vander Weide demonstrates that
4 earnings growth projections have a statistically significant relationship to stock
5 valuation levels, while dividend growth rates do not.⁹⁰ Those findings suggest that
6 investors form their investment decisions based on expectations of growth in
7 earnings, not dividends. Consequently, earnings growth, not dividend growth, is
8 the appropriate estimate for the purpose of the Constant Growth DCF model.

9 Q. PLEASE SUMMARIZE THE INPUTS TO THE CONSTANT GROWTH DCF
10 MODEL.

11 A. I applied the DCF model to the proxy group of electric utility companies using the
12 following inputs for the price and dividend terms:

- 13 1. The average daily closing prices for the 30-, 90-, and 180-trading days
14 ended February 15, 2019, for the term P_0 ; and
- 15 2. The annualized dividend per share as of February 15, 2019, for the term
16 D_0 .

17 I then calculated the DCF results using each of the following growth terms:

- 18 1. The Zacks consensus long-term earnings growth estimates;
- 19 2. The First Call consensus long-term earnings growth estimates; and
- 20 3. The Value Line long-term earnings growth estimates.

21 Q. HOW DID YOU CALCULATE THE HIGH AND LOW DCF RESULTS?

⁸⁹ Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *The Risk Premium Approach to Measuring a Utility's Cost of Equity*, Financial Management (Spring 1985).

⁹⁰ See, Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management (Spring 1988).

1 A. For each proxy company, I calculated the mean, mean high, and mean low results.
 2 For the mean result, I combined the average of the EPS growth rate estimates
 3 reported by Value Line, Zacks, and First Call with the subject company's dividend
 4 yield for each proxy company and then calculated the average result for those
 5 estimates. I calculated the high DCF result by combining the maximum EPS
 6 growth rate estimate as reported by Value Line, Zacks, and First Call with the
 7 subject company's dividend yield. The mean high result is the average of those
 8 estimates. I used the same approach to calculate the low DCF result, using instead
 9 the minimum of the Value Line, Zacks, and First Call estimate for each proxy
 10 company, and calculating the average result for those estimates.

11 Q. WHAT ARE THE RESULTS OF YOUR DCF ANALYSIS?

12 A. The Constant Growth DCF results are summarized in Table 6 (see also
 13 Exhibit RBH-1).

14 **Table 6: Constant Growth DCF Results⁹¹**

	<i>Mean</i>	<i>Mean High</i>
30-Day Average	9.22%	10.09%
90-Day Average	9.24%	10.11%
180-Day Average	9.32%	10.20%

15 Q. DO YOU BELIEVE THAT THE CONSTANT GROWTH DCF MODEL
 16 CURRENTLY PROVIDES A REASONABLE ESTIMATE OF THE
 17 COMPANY'S COST OF EQUITY?

18 A. No, I do not. As a practical matter, the period over which the analyses were
 19 performed included market data that were inconsistent with that model's

⁹¹ DCF results presented in Table 6 are unadjusted (*i.e.*, prior to any adjustment for flotation costs). See also Exhibit RBH-1, which includes the Mean Low estimates.

1 fundamental assumptions. As such, the model produced results at odds with current
2 observable capital market conditions. Regardless of the method employed,
3 however, an authorized ROE that is well below returns authorized for other utilities
4 (1) runs counter to the *Hope* and *Bluefield* “comparable risk” standard, (2) would
5 place the Company at a competitive disadvantage, and (3) would make it difficult
6 for the Company to compete for capital at reasonable terms.

7 Q. PLEASE SUMMARIZE THE REASONS YOU BELIEVE THE CONSTANT
8 GROWTH DCF MODEL SHOULD NOT BE GIVEN UNDUE WEIGHT IN THIS
9 PROCEEDING.

10 A. As explained earlier, the model assumes that the return estimated today will be the
11 same return required in the future, even though the Federal Reserve only recently
12 has begun its move toward monetary policy normalization. That process of
13 normalization, together with the uncertainty surrounding the “unwinding” of the
14 assets put on the Federal Reserve’s balance sheet during its “Quantitative Easing”
15 initiatives introduce a degree of risk, and a likelihood of increasing interest rates,
16 not present in the current market. As also discussed later in my Direct Testimony,
17 other methods more directly reflect the risk premium required by investors in
18 response to market and industry risks. On balance, it is my view that the Constant
19 Growth DCF method should be given less weight than other methods in
20 establishing the Company’s ROE.

21 Q. WITH THOSE POINTS IN MIND, HOW DID YOU REFLECT THE
22 CONSTANT GROWTH DCF RESULTS IN YOUR ROE RANGE AND
23 RECOMMENDATION?

1 A. I first recognized that the model's mean and mean low results are well below a
2 reasonable estimate of the Company's Cost of Equity. For example, of the 1,580
3 electric utility rate cases provided by Regulatory Research Associates that disclosed
4 the awarded ROE since 1980, only 10 included an authorized ROE below 9.00
5 percent.⁹² On that basis alone, the mean low results are highly improbable.

6 I then considered why the Constant Growth model is producing such low
7 estimates of the Company's Cost of Equity. In one sense, relatively low dividend
8 yields should be associated with relatively high growth rates. That is, low dividend
9 yields are the result of relatively high stock prices which, in turn, should be
10 associated with relatively high growth rates. If those relationships do not hold, the
11 model's results should be viewed with some caution.

12 I also recognize that whereas the Constant Growth DCF model assumes
13 existing capital market conditions will remain constant, Risk Premium-based
14 methods (discussed later in this Appendix) directly reflect the changing capital
15 market environment (*see* Section III). Because it is important to reflect the results
16 of different models, and the mean and mean low Constant Growth DCF results are
17 far-removed from recently authorized returns, I concluded that they should be given
18 less weight than other methods in determining the Company's ROE.

19 **B. Capital Asset Pricing Model**

20 Q. PLEASE BRIEFLY DESCRIBE THE GENERAL FORM OF THE CAPM
21 ANALYSIS.

⁹² Source: Regulatory Research Associates. Eight of those 10 were the outcome of Illinois formula rate plans. Excluding Illinois formula rate plans, since 2015, only one electric utility rate case included an authorized ROE below 9.00%.

1 A. The CAPM is a risk premium method that estimates the Cost of Equity for a given
 2 security as a function of a risk-free return plus a risk premium (to compensate
 3 investors for the non-diversifiable or “systematic” risk of that security). The CAPM
 4 describes the relationship between a security’s investment risk and the market rate
 5 of return. The CAPM assumes that all other risk, i.e., all non-market or
 6 unsystematic risk, can be eliminated through diversification. The risk that cannot
 7 be eliminated through diversification is called market, or systematic, risk. In
 8 addition, the CAPM presumes that investors require compensation only for
 9 systematic risk that is the result of macroeconomic and other events that affect the
 10 returns on all assets.

11 As shown in Equation [6], the CAPM is defined by four components, each
 12 of which theoretically must be a forward-looking estimate:

$$13 \qquad K_e = r_f + B(r_m - r_f) \quad [6]$$

14 where:

15 k = the required market ROE for a security;

16 β = the Beta coefficient of that security;

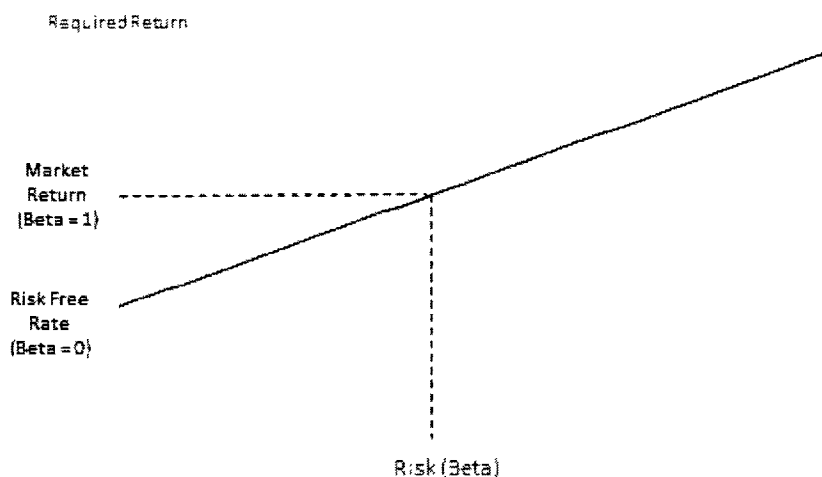
17 r_f = the risk-free rate of return; and

18 r_m = the required return on the market as a whole.

19 Equation [6] describes the Security Market Line, or the CAPM risk-return
 20 relationship, which is graphically depicted in Chart 7 below. The intercept is the
 21 risk-free rate (r_f) which has a beta of zero, the slope is the expected market risk
 22 premium ($r_m - r_f$). By definition, r_m , the return on the market has a beta of 1.00.

The CAPM states that in well-behaving capital markets, the expected equity risk premium on a given security is proportional to its Beta coefficient.

Chart 7: Security Market Line (“SML”)



Intuitively, higher Beta coefficients indicate that the subject company’s returns have been relatively volatile, and have moved in tandem with the overall market. Consequently, if a company has a Beta coefficient of 1.00, it is as risky as the market and does not provide any diversification benefit.

In Equation [6], the term $(r_m - r_f)$ represents the Market Risk Premium.⁹³ According to the theory underlying the CAPM, since unsystematic risk can be diversified away by adding securities to investment portfolios, the market will not compensate investors for bearing that risk. Therefore, investors should be concerned only with systematic or non-diversifiable risk. Non-diversifiable risk is measured by the Beta coefficient, which is defined as:

⁹³ The Market Risk Premium is defined as the incremental return of the market portfolio over the risk-free rate.

$$\beta_j = \frac{\sigma_j}{\sigma_m} \times \rho_{j,m} \quad [7]$$

Where σ_j is the standard deviation of returns for company “j,” σ_m is the standard deviation of returns for the broad market (as measured, for example, by the S&P 500 Index), and $\rho_{j,m}$ is the correlation of returns in between company j and the broad market. The Beta coefficient therefore represents both relative volatility (i.e., the standard deviation) of returns, and the correlation in returns between the subject company and the overall market.

Q. WHAT ASSUMPTIONS DID YOU INCLUDE IN THE CAPM ANALYSIS?

A. It is important to select the term (or maturity) of the risk-free rate that best matches the life of the underlying investment. Electric utilities typically are long-duration investments and, as such, the 30-year Treasury yield is more suitable for the purpose of calculating the Cost of Equity. As such, I used two different measures of the risk-free rate: (1) the current 30-day average yield on 30-year Treasury bonds (i.e., 3.03 percent);⁹⁴ and (2) the projected 30-year Treasury yield (i.e., 3.33 percent).⁹⁵

Q. PLEASE DESCRIBE THE *EX-ANTE* APPROACH TO ESTIMATING THE MARKET RISK PREMIUM (“MRP”).

A. The approach is based on the market required return, less the current 30-year Treasury yield. To estimate the market required return, I calculated the market capitalization weighted average ROE based on the Constant Growth DCF model. To do so, I relied on data from two sources: (1) Bloomberg; and (2) Value Line.⁹⁶

⁹⁴ Source: Bloomberg Professional Services

⁹⁵ Source: Blue Chip Financial Forecast at 2, Vol. 38, No. 2, February 1, 2019.

⁹⁶ See Exhibit RBH-2.

1 With respect to Bloomberg-derived growth estimates, I calculated the expected
2 dividend yield (using the same one-half growth rate assumption described earlier),
3 and combined that amount with the projected earnings growth rate to arrive at the
4 market capitalization weighted average DCF result. I performed that calculation
5 for each of the S&P 500 companies for which Bloomberg provided consensus
6 growth rates. I then subtracted the current 30-year Treasury yield from that amount
7 to arrive at the market DCF-derived *ex-ante* market risk premium estimate. In the
8 case of Value Line, I performed the same calculation, again using all companies for
9 which five-year earnings growth rates were available. The results of those
10 calculations are provided in Exhibit RBH-2.

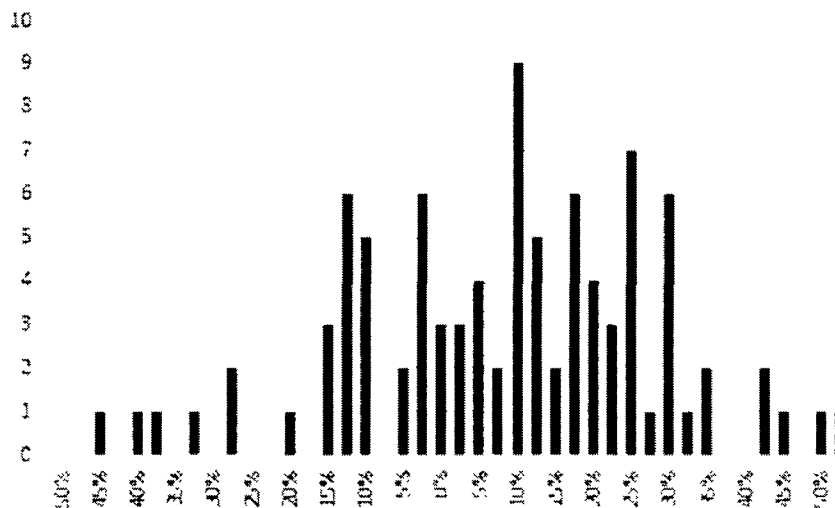
11 As discussed above each input to the CAPM should be forward-looking.
12 Witnesses in prior rate cases have relied on historical measures of the MRP. While
13 it may be instructive to review historical MRPs to inform the reasonableness of an
14 *ex-ante* estimate (as I have done below), they do not include investors'
15 expectations, and therefore are not appropriate for use in the CAPM. As such, I
16 believe the *ex-ante* market DCF approach is reasonable.

17 Q. HAVE YOU UNDERTAKEN ANY ANALYSES TO DETERMINE THE
18 REASONABLENESS OF THE *EX-ANTE* MRP CALCULATION?

19 A. Yes, I have considered how often various ranges of MRPs have been observed over
20 the 1926 to 2017 period. To perform that analysis, I gathered the annual Market
21 Risk Premia reported by Duff & Phelps and produced a histogram of those
22 observations. The results of that analysis, which are presented in Chart 8,

demonstrate that MRPs in the range of approximately 12.41 percent (the average of the MRP estimates) and higher occurred quite often.

Chart 8: Frequency Distribution of MRP, 1926 -2017⁹⁷



Q. HOW DID YOU APPLY THE EXPECTED MARKET RISK PREMIUM AND RISK-FREE RATE ESTIMATES?

A. I relied on the *ex-ante* Market Risk Premia discussed above, together with the current and near-term projected 30-year Treasury yields as inputs to the CAPM analyses.

Q. WHAT BETA COEFFICIENT DID YOU USE IN THE CAPM MODEL?

A. As shown in Exhibit RBH-3, I considered the Beta coefficients reported by two sources: Bloomberg and Value Line. Although both services adjust their calculated (or “raw”) Beta coefficients to reflect the tendency of the Beta coefficient to regress

⁹⁷ Source: Duff & Phelps, 2018 SBBI, Appendix A-1, A-7.

1 to the market mean of 1.00, Value Line calculates the Beta coefficient over a five-
 2 year period, while Bloomberg's calculation is based on two years of data.⁹⁸

3 Q. WHAT ARE THE RESULTS OF THE CAPM ANALYSIS?

4 A. As shown in Table 7 the CAPM analyses suggest an ROE range of 8.37 percent to
 5 11.66 percent (*see* also Exhibit RBH-4).

6 **Table 7: Summary of CAPM Results⁹⁹**

	Bloomberg Derived Market Risk Premium	Value Line Derived Market Risk Premium
<i>Average Bloomberg Beta Coefficient</i>		
Current 30-Year Treasury (3.03%)	8.37%	10.05%
Near Term Projected 30-Year Treasury (3.33%)	8.66%	10.35%
<i>Average Value Line Beta Coefficient</i>		
Current 30-Year Treasury (3.03%)	9.27%	11.24%
Near Term Projected 30-Year Treasury (3.33%)	9.57%	11.54%

7 **C. Bond Yield Plus Risk Premium Analysis**

8 Q. PLEASE DESCRIBE THE BOND YIELD PLUS RISK PREMIUM APPROACH.

9 A. This approach is based on the basic financial principle of risk and return, that equity
 10 investors bear the residual risk associated with ownership and therefore require a
 11 premium over the return they would have earned as a bondholder. That is, because
 12 returns to equity holders are riskier than returns to bondholders, equity investors
 13 must be compensated for bearing that additional risk. Risk premium approaches,

⁹⁸ As noted in Equation [7], Beta coefficients reflect the subject company's relative risk (the standard deviation of its returns relative to the standard deviation of market returns), and the correlation of returns with the overall market. To the extent Federal policies (such as the Tax Cuts and Jobs Act, and Quantitative Easing) cause utility returns to trade away from the market, the correlation will fall, even if relative risk remains constant, or even increases. Because they are measured over two, rather than five years, Beta coefficients provided by Bloomberg may be more susceptible to those effects.

⁹⁹ *See* Exhibit RBH-4.

1 therefore, estimate the Cost of Equity as the sum of the equity risk premium and
2 the yield on a class of bonds. Because the equity risk premium is not directly
3 observable, it typically is estimated using a variety of approaches, some of which
4 incorporate *ex-ante*, or forward-looking estimates of the Cost of Equity, and others
5 that consider historical, or *ex-post*, estimates. An alternative approach is to use
6 actual authorized returns for electric utilities to estimate the Equity Risk Premium.

7 Q. PLEASE EXPLAIN HOW YOU PERFORMED THE BOND YIELD PLUS RISK
8 PREMIUM ANALYSIS.

9 A. As indicated above, I first defined the Risk Premium as the difference between the
10 authorized ROE and the then-prevailing level of long-term (i.e., 30-year) Treasury
11 yield. I then gathered data for 1,580 electric utility rate proceedings between
12 January 1, 1980 and February 15, 2019. In addition to the authorized ROE, I also
13 calculated the average period between the filing of the case and the date of the final
14 order (the “lag period”). To reflect the prevailing level of interest rates during the
15 pendency of the proceedings, I calculated the average 30-year Treasury yield over
16 the average lag period (approximately 200 days).

17 Because the data covers a number of economic cycles, the analysis also may
18 be used to assess the stability of the Equity Risk Premium. Prior research, for
19 example, has shown that the Equity Risk Premium is inversely related to the level
20 of interest rates. That analysis is particularly relevant given the relatively low, but
21 increasing level of current Treasury yields.

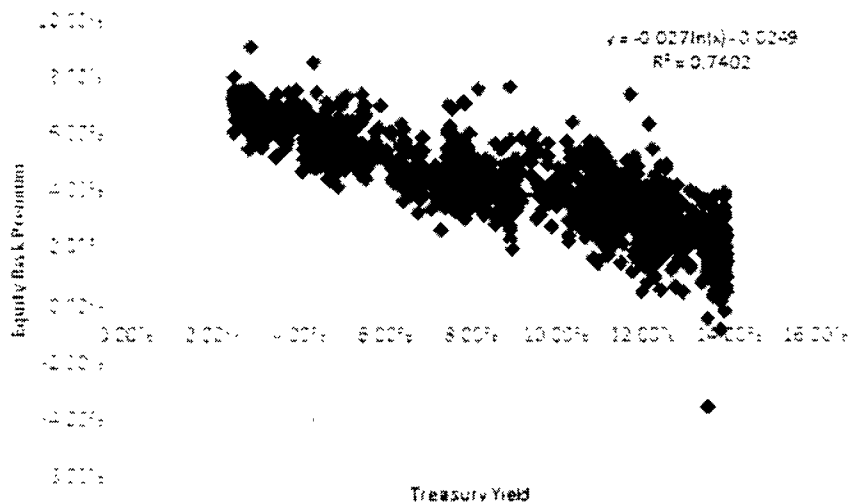
22 Q. HOW DID YOU ANALYZE THE RELATIONSHIP BETWEEN INTEREST
23 RATES AND THE EQUITY RISK PREMIUM?

1 A. The basic method used was regression analysis, in which the observed Equity Risk
 2 Premium is the dependent variable, and the average 30-year Treasury yield is the
 3 independent variable. Relative to the long-term historical average, the analytical
 4 period includes interest rates and authorized ROEs that are quite high during one
 5 period (i.e., the 1980s) and that are quite low during another (i.e., the post-Lehman
 6 bankruptcy period). To account for that variability, I used the semi-log regression,
 7 in which the Equity Risk Premium is expressed as a function of the natural log of
 8 the 30-year Treasury yield:

$$RP = \alpha + \beta(\text{LN}(T_{30})) \quad [8]$$

9 As shown on Chart 9 (below), the semi-log form is useful when measuring
 10 an absolute change in the dependent variable (in this case, the Risk Premium)
 11 relative to a proportional change in the independent variable (the 30-year Treasury
 12 yield).

13 **Chart 9: Equity Risk Premium¹⁰⁰**



¹⁰⁰ See Exhibit RBH-5.

As Chart 9 illustrates, over time there has been a statistically significant, negative relationship between the 30-year Treasury yield and the Equity Risk Premium. Consequently, simply applying the long-term average Equity Risk Premium of 4.66 percent would significantly understate the Cost of Equity and produce results well below any reasonable estimate. Based on the regression coefficients in Chart 9, however, the implied ROE is between 9.93 percent and 10.17 percent (*see* Table 8 and Exhibit RBH-5).

Table 8: Summary of Bond Yield Plus Risk Premium Results¹⁰¹

	<i>Return on Equity</i>
Current 30-Year Treasury (3.03%)	9.93%
Near Term Projected 30-Year Treasury (3.33%)	9.98%
Long Term Projected 30-Year Treasury (4.05%)	10.17%

D. Expected Earnings Analysis

Q. PLEASE DESCRIBE THE EXPECTED EARNINGS ANALYSIS

A. The Expected Earnings analysis is based on the principle of opportunity costs. Because investors may invest in, and earn returns on alternative investments of similar risk, those rates of return can provide a useful benchmark in determining the appropriate rate of return for a firm. Further, because those results are based solely on the returns expected by investors, exclusive of market-data or models, the Expected Earnings approach provides a direct comparison.

Q. PLEASE EXPLAIN HOW THE EXPECTED EARNINGS ANALYSIS IS CONDUCTED.

¹⁰¹ *Id.*

1 A. The Expected Earnings analysis typically takes the actual earnings on book value
2 of investment for each of the members of the proxy group and compares those
3 values to the rate of return in question. Although the traditional approach uses data
4 based on historical accounting records, it is common to use forecasted data in
5 conducting the analysis. Projected returns on book investment are provided by
6 various industry publications (e.g., Value Line), which I have used in my analysis.

7 I relied on Value Line's projected Return on Common for the period 2021-
8 2023, and adjusted those projected returns to account for the fact that they reflect
9 common shares outstanding at the end of the period, rather than the average shares
10 outstanding over the course of the year.¹⁰² The Expected Earnings analysis results
11 in an average value of 10.27 percent and a median value of 10.26 (*see* Exhibit
12 RBH-6).

¹⁰² The rationale for that adjustment is straightforward: Earnings are achieved over the course of a year, and should be related to the equity that was, on average, in place during that year. See, Leopold A. Bernstein, Financial Statement Analysis: Theory, Application, and Interpretation at 630, Irwin, 4th Ed., 1988.

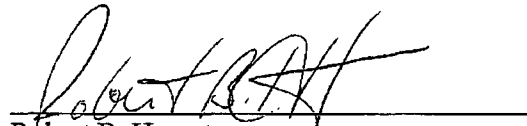
COMMONWEALTH OF MASSACHUSETTS §
§
COUNTY OF WORCESTER §

AFFIDAVIT OF ROBERT B. HEVERT

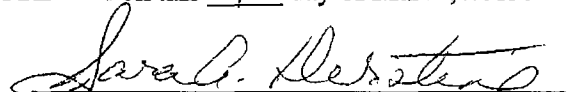
BEFORE ME, the undersigned authority, on this day personally appeared Robert B. Hevert, who having been placed under oath by me did depose as follows:

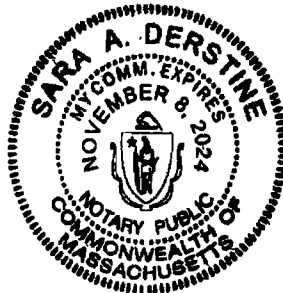
1. "My name is Robert B. Hevert. I am of sound mind and capable of making this affidavit. The facts stated herein are true and correct based on my personal knowledge.
2. The foregoing Direct Testimony, Exhibits, and all associated Workpapers were prepared under my direct supervision and control. The information contained in these documents is true and correct to the best of my knowledge."

Further affiant sayeth not.


Robert B. Hevert

SUBSCRIBED AND SWORN TO BEFORE ME on this 14th day of March, 2019.


Notary Public in and for the Commonwealth
of Massachusetts



My commission expires: 11/8/2024

Summary

Bob Hevert is a financial and economic consultant with more than 30 years of broad experience in the energy and utility industries. He has an extensive background in the areas of corporate finance, mergers and acquisitions, project finance, asset and business unit valuation, rate and regulatory matters, energy market assessment, and corporate strategic planning. He has provided expert testimony on a wide range of financial, strategic, and economic matters on more than 250 occasions at the state, provincial, and federal levels.

Prior to joining ScottMadden, Bob served as managing partner at Sussex Economic Advisors, LLC. Throughout the course of his career, he has worked with numerous leading energy companies and financial institutions throughout North America. He has provided expert testimony and support of litigation in various regulatory proceedings on a variety of energy and economic issues. Bob earned a B.S. in business and economics from the University of Delaware and an M.B.A. with a concentration in finance from the University of Massachusetts at Amherst. Bob also holds the Chartered Financial Analyst designation.

Areas of Specialization

- Regulation and rates
- Utilities
- Fossil/hydro generation
- Markets and RTOs
- Nuclear generation
- Mergers and acquisitions
- Regulatory strategy and rate case support
- Capital project planning
- Strategic and business planning

Recent Expert Testimony Submission/Appearance

- Federal Energy Regulatory Commission – Return on Equity
- New Jersey Board of Public Utilities – Merger Approval
- New Mexico Public Regulation Commission – Cost of Capital and Financial Integrity
- United States District Court – PURPA and FERC Regulations
- Alberta Utilities Commission – Return on Equity and Capital Structure

Recent Assignments

- Provided expert testimony on the cost of capital for ratemaking purposes before numerous state utility regulatory agencies, the Alberta Utilities Commission, and the Federal Energy Regulatory Commission
- For an independent electric transmission provider in Texas, prepared an expert report on the economic damages with respect to failure to meet guaranteed completion dates. The report was filed as part of an arbitration proceeding and included a review of the ratemaking implications of economic damages
- Advised the board of directors of a publicly traded electric and natural gas combination utility on dividend policy issues, earnings payout trends and related capital market considerations
- Assisted a publicly traded utility with a strategic buy-side evaluation of a gas utility with more than \$1 billion in assets. The assignment included operational performance benchmarking, calculation of merger synergies, risk analysis, and review of the regulatory implications of the transaction
- Provided testimony before the Arkansas Public Service Commission in support of the acquisition of SourceGas LLC by Black Hills Corporation. The testimony addressed certain balance sheet capitalization and credit rating issues
- For the State of Maine Public Utility Commission, prepared a report that summarized the Northeast and Atlantic Canada natural gas power markets and analyzed the potential benefits and costs associated with natural gas pipeline expansions. The independent report was filed at the Maine Public Utility Commission

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Regulatory Commission of Alaska				
Cook Inlet Natural Gas Storage Alaska, LLC	06/18	Cook Inlet Natural Gas Storage Alaska, LLC	Docket No. U-18-043	Return on Equity
ENSTAR Natural Gas Company	06/16	ENSTAR Natural Gas Company	Matter No. TA 285-4	Return on Equity
ENSTAR Natural Gas Company	08/14	ENSTAR Natural Gas Company	Matter No. TA 262-4	Return on Equity
Alberta Utilities Commission				
AltaLink, L.P., and EPCOR Distribution & Transmission, Inc., and FortisAlberta Inc.	10/17	AltaLink, L.P., and EPCOR Distribution & Transmission, Inc., and FortisAlberta Inc.	2018 General Cost of Capital, Proceeding ID. 22570	Rate of Return
EPCOR Energy Alberta G.P. Inc.	01/17	EPCOR Energy Alberta G.P. Inc.	Proceeding 22357	Energy Price Setting Plan
AltaLink, L.P., and EPCOR Distribution & Transmission, Inc.	02/16	AltaLink, L.P., and EPCOR Distribution & Transmission, Inc.	2016 General Cost of Capital, Proceeding ID. 20622	Rate of Return
Arizona Corporation Commission				
Southwest Gas Corporation	05/16	Southwest Gas Corporation	Docket No. G-01551A-16-0107	Return on Equity
Southwest Gas Corporation	11/10	Southwest Gas Corporation	Docket No. G-01551A-10-0458	Return on Equity
Arkansas Public Service Commission				
Oklahoma Gas and Electric Company	09/16	Oklahoma Gas and Electric Company	Docket No. 16-052-U	Return on Equity
SourceGas Arkansas, Inc.	12/15	SourceGas Arkansas, Inc.	Docket No. 15-078-U	Response to Direct Testimony by Arkansas Attorney General related to Compliance Issues
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas	11/15	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas	Docket No. 15-098-U	Return on Equity
SourceGas Arkansas, Inc.	04/15	SourceGas Arkansas, Inc.	Docket No. 15-011-U	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas	01/07	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas	Docket No. 06-161-U	Return on Equity
California Public Utilities Commission				
Southwest Gas Corporation	12/12	Southwest Gas Corporation	Docket No. A-12-12-024	Return on Equity
Colorado Public Utilities Commission				
Atmos Energy Corporation	06/17	Atmos Energy Corporation	Docket No. 17AL-0429G	Return on Equity
Xcel Energy, Inc.	03/15	Public Service Company of Colorado	Docket No. 15AL-0135G	Return on Equity (gas)
Xcel Energy, Inc.	06/14	Public Service Company of Colorado	Docket No. 14AL-0660E	Return on Equity (electric)
Xcel Energy, Inc.	12/12	Public Service Company of Colorado	Docket No. 12AL-1268G	Return on Equity (gas)

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Xcel Energy, Inc.	11/11	Public Service Company of Colorado	Docket No. 11AL-947E	Return on Equity (electric)
Xcel Energy, Inc.	12/10	Public Service Company of Colorado	Docket No. 10AL-963G	Return on Equity (electric)
Atmos Energy Corporation	07/09	Atmos Energy Colorado-Kansas Division	Docket No. 09AL-507G	Return on Equity (gas)
Xcel Energy, Inc.	12/06	Public Service Company of Colorado	Docket No. 06S-656G	Return on Equity (gas)
Xcel Energy, Inc.	04/06	Public Service Company of Colorado	Docket No. 06S-234EG	Return on Equity (electric)
Xcel Energy, Inc.	08/05	Public Service Company of Colorado	Docket No. 05S-369ST	Return on Equity (steam)
Xcel Energy, Inc.	05/05	Public Service Company of Colorado	Docket No. 05S-246G	Return on Equity (gas)
Connecticut Public Utilities Regulatory Authority				
Connecticut Light and Power Company	11/17	Connecticut Light and Power Company	Docket No. 17-10-46	Return on Equity
Connecticut Light and Power Company	06/14	Connecticut Light and Power Company	Docket No. 14-05-06	Return on Equity
Southern Connecticut Gas Company	09/08	Southern Connecticut Gas Company	Docket No. 08-08-17	Return on Equity
Southern Connecticut Gas Company	12/07	Southern Connecticut Gas Company	Docket No. 05-03-17PH02	Return on Equity
Connecticut Natural Gas Corporation	12/07	Connecticut Natural Gas Corporation	Docket No. 06-03-04PH02	Return on Equity
Council of the City of New Orleans				
Entergy New Orleans, LLC	09/18	Entergy New Orleans, LLC	Docket No. UD-18-07	Return on Equity
Delaware Public Service Commission				
Delmarva Power & Light Company	08/17	Delmarva Power & Light Company	Docket No. 17-0977 (Electric)	Return on Equity
Delmarva Power & Light Company	08/17	Delmarva Power & Light Company	Docket No. 17-0978 (Gas)	Return on Equity
Delmarva Power & Light Company	05/16	Delmarva Power & Light Company	Case No. 16-649 (Electric)	Return on Equity
Delmarva Power & Light Company	05/16	Delmarva Power & Light Company	Case No. 16-650 (Gas)	Return on Equity
Delmarva Power & Light Company	03/13	Delmarva Power & Light Company	Case No. 13-115	Return on Equity
Delmarva Power & Light Company	12/12	Delmarva Power & Light Company	Case No. 12-546	Return on Equity
Delmarva Power & Light Company	03/12	Delmarva Power & Light Company	Case No. 11-528	Return on Equity
District of Columbia Public Service Commission				
Potomac Electric Power Company	12/17	Potomac Electric Power Company	Formal Case No. 1150	Return on Equity
Potomac Electric Power Company	06/16	Potomac Electric Power Company	Formal Case No. 1139	Return on Equity
Washington Gas Light Company	02/16	Washington Gas Light Company	Formal Case No. 1137	Return on Equity
Potomac Electric Power Company	03/13	Potomac Electric Power Company	Formal Case No. 1103-2013-E	Return on Equity
Potomac Electric Power Company	07/11	Potomac Electric Power Company	Formal Case No. 1087	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
Federal Energy Regulatory Commission				
Sabine Pipeline, LLC	09/15	Sabine Pipeline, LLC	Docket No. RP15-1322-000	Return on Equity
NextEra Energy Transmission West, LLC	07/15	NextEra Energy Transmission West, LLC	Docket No. ER15-2239-000	Return on Equity
Maritimes & Northeast Pipeline, LLC	05/15	Maritimes & Northeast Pipeline, LLC	Docket No. RP15-1026-000	Return on Equity
Public Service Company of New Mexico	12/12	Public Service Company of New Mexico	Docket No. ER13-685-000	Return on Equity
Public Service Company of New Mexico	10/10	Public Service Company of New Mexico	Docket No. ER11-1915-000	Return on Equity
Portland Natural Gas Transmission System	05/10	Portland Natural Gas Transmission System	Docket No. RP10-729-000	Return on Equity
Florida Gas Transmission Company, LLC	10/09	Florida Gas Transmission Company, LLC	Docket No. RP10-21-000	Return on Equity
Maritimes and Northeast Pipeline, LLC	07/09	Maritimes and Northeast Pipeline, LLC	Docket No. RP09-809-000	Return on Equity
Spectra Energy	02/08	Saltville Gas Storage	Docket No. RP08-257-000	Return on Equity
Panhandle Energy Pipelines	08/07	Panhandle Energy Pipelines	Docket No. PL07-2-000	Response to draft policy statement regarding inclusion of MLPs in proxy groups for determination of gas pipeline ROEs
Southwest Gas Storage Company	08/07	Southwest Gas Storage Company	Docket No. RP07-541-000	Return on Equity
Southwest Gas Storage Company	06/07	Southwest Gas Storage Company	Docket No. RP07-34-000	Return on Equity
Sea Robin Pipeline LLC	06/07	Sea Robin Pipeline LLC	Docket No. RP07-513-000	Return on Equity
Transwestern Pipeline Company	09/06	Transwestern Pipeline Company	Docket No. RP06-614-000	Return on Equity
GPU International and Aquila	11/00	GPU International	Docket No. EC01-24-000	Market Power Study
Florida Public Service Commission				
Florida Power & Light Company	03/16	Florida Power & Light Company	Docket No. 160021-EI	Return on Equity
Tampa Electric Company	04/13	Tampa Electric Company	Docket No. 130040-EI	Return on Equity
Georgia Public Service Commission				
Atlanta Gas Light Company	05/10	Atlanta Gas Light Company	Docket No. 31647-U	Return on Equity
Hawaii Public Utilities Commission				
Hawai'i Electric Light Company, Inc.	12/18	Hawai'i Electric Light Company, Inc.	Docket No. 2018-0368	Return on Equity
Maui Electric Company, Limited	10/17	Maui Electric Company, Limited	Docket No. 2017-0150	Return on Equity
Hawaiian Electric Company, Inc.	12/16	Hawaiian Electric Company, Inc.	Docket No. 2016-0328	Return on Equity
Hawai'i Electric Light Company, Inc.	09/16	Hawai'i Electric Light Company, Inc.	Docket No. 2015-0170	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
Maui Electric Company, Limited	12/14	Maui Electric Company, Limited	Docket No. 2014-0318	Return on Equity
Hawaiian Electric Company, Inc.	06/14	Hawaiian Electric Company, Inc.	Docket No. 2013-0373	Return on Equity
Hawai'i Electric Light Company, Inc.	08/12	Hawai'i Electric Light Company, Inc.	Docket No. 2012-0099	Return on Equity
Illinois Commerce Commission				
Ameren Illinois Company d/b/a Ameren Illinois	01/18	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 18-0463	Return on Equity
Ameren Illinois Company d/b/a Ameren Illinois	01/15	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 15-0142	Return on Equity
Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	04/14	Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	Docket No. 14-0371	Return on Equity
Ameren Illinois Company d/b/a Ameren Illinois	01/13	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 13-0192	Return on Equity
Ameren Illinois Company d/b/a Ameren Illinois	02/11	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 11-0279	Return on Equity (electric)
Ameren Illinois Company d/b/a Ameren Illinois	02/11	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 11-0282	Return on Equity (gas)
Indiana Utility Regulatory Commission				
Indiana Michigan Power Company	7/17	Indiana Michigan Power Company	Cause No. 44967	Return on Equity
Duke Energy Indiana, Inc.	12/15	Duke Energy Indiana, Inc.	Cause No. 44720	Return on Equity
Duke Energy Indiana, Inc.	12/14	Duke Energy Indiana, Inc.	Cause No. 44526	Return on Equity
Northern Indiana Public Service Company	05/09	Northern Indiana Public Service Company	Cause No. 43894	Assessment of Valuation Approaches
Kansas Corporation Commission				
Empire District Electric Company	12/18	Empire District Electric Company	Docket No. 19-EPDE-223-RTS	Alternative Ratemaking Mechanisms
Kansas City Power & Light Company	05/18	Kansas City Power & Light Company	Docket No. 18-KCPE-480-RTS	Return on Equity
Westar Energy	02/18	Westar Energy	Docket No. 18-WSEE-328-RTS	Return on Equity
Great Plains Energy, Inc. and Kansas City Power & Light Company	01/17	Great Plains Energy, Inc. and Kansas City Power & Light Company	Docket No. 16-KCPE-593-ACQ	Response to Direct Testimony by Commission Staff related to the ratemaking capital structure processes

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Kansas City Power & Light Company	01/15	Kansas City Power & Light Company	Docket No. 15-KCPE-116-RTS	Return on Equity
Maine Public Utilities Commission				
Northern Utilities, Inc.	05/17	Northern Utilities, Inc.	Docket No. 2017-00065	Return on Equity
Central Maine Power Company	06/11	Central Maine Power Company	Docket No. 2010-327	Response to Bench Analysis provided by Commission Staff relating to the Company's credit and collections processes
Maryland Public Service Commission				
Potomac Electric Power Company	01/19	Potomac Electric Power Company	Case No. 9602	Return on Equity
Washington Gas Light Company	05/18	Washington Gas Light Company	Case No. 9481	Return on Equity
Potomac Electric Power Company	01/18	Potomac Electric Power Company	Case No. 9472	Return on Equity
Delmarva Power & Light Company	07/17	Delmarva Power & Light Company	Case No. 9455	Return on Equity
Potomac Electric Power Company	03/17	Potomac Electric Power Company	Case No. 9443	Return on Equity
Delmarva Power & Light Company	06/16	Delmarva Power & Light Company	Case No. 9424	Return on Equity
Potomac Electric Power Company	06/16	Potomac Electric Power Company	Case No. 9418	Return on Equity
Potomac Electric Power Company	12/13	Potomac Electric Power Company	Case No. 9336	Return on Equity
Delmarva Power & Light Company	03/13	Delmarva Power & Light Company	Case No. 9317	Return on Equity
Potomac Electric Power Company	11/12	Potomac Electric Power Company	Case No. 9311	Return on Equity
Potomac Electric Power Company	12/11	Potomac Electric Power Company	Case No. 9286	Return on Equity
Delmarva Power & Light Company	12/11	Delmarva Power & Light Company	Case No. 9285	Return on Equity
Delmarva Power & Light Company	12/10	Delmarva Power & Light Company	Case No. 9249	Return on Equity
Massachusetts Department of Public Utilities				
NSTAR Electric Company d/b/a Eversource Energy; Massachusetts Electric Company & Nantucket Electric Company, d/b/a National Grid; and Fitchburg Gas and Electric Light Company, d/b/a Unitil	02/19	NSTAR Electric Company d/b/a Eversource Energy; Massachusetts Electric Company & Nantucket Electric Company, d/b/a National Grid; and Fitchburg Gas and Electric Light Company, d/b/a Unitil	DPU 18-64/DPU 18-65/DPU 18-66	Response to Direct Testimony by Attorney General Witness regarding Remuneration Rate Section 83D
National Grid	11/18	Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid	DPU 18-150	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
NSTAR Electric Company d/b/a Eversource Energy	11/18	NSTAR Electric Company d/b/a Eversource Energy	DPU 18-76/DPU 18-77/DPU 18-78	Response to Direct Testimony by Attorney General Witness regarding Remuneration Rate Section 83C
Boston Gas Company, Colonial Gas Company each d/b/a National Grid	11/17	Boston Gas Company, Colonial Gas Company each d/b/a National Grid	DPU 17-170	Return on Equity
NSTAR Electric Company Western and Massachusetts Electric Company each d/b/a Eversource Energy	01/17	NSTAR Electric Company Western Massachusetts Electric Company each d/b/a Eversource Energy	DPU 17-05	Return on Equity
National Grid	11/15	Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid	DPU 15-155	Return on Equity
Fitchburg Gas and Electric Light Company d/b/a Unitil	06/15	Fitchburg Gas and Electric Light Company d/b/a Unitil	DPU 15-80	Return on Equity
NSTAR Gas Company	12/14	NSTAR Gas Company	DPU 14-150	Return on Equity
Fitchburg Gas and Electric Light Company d/b/a Unitil	07/13	Fitchburg Gas and Electric Light Company d/b/a Unitil	DPU 13-90	Return on Equity
Bay State Gas Company d/b/a Columbia Gas of Massachusetts	04/12	Bay State Gas Company d/b/a Columbia Gas of Massachusetts	DPU 12-25	Capital Cost Recovery
National Grid	08/09	Massachusetts Electric Company d/b/a National Grid	DPU 09-39	Revenue Decoupling and Return on Equity
National Grid	08/09	Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid	DPU 09-38	Return on Equity – Solar Generation
Bay State Gas Company	04/09	Bay State Gas Company	DPU 09-30	Return on Equity
NSTAR Electric	09/04	NSTAR Electric	DTE 04-85	Divestiture of Power Purchase Agreement
NSTAR Electric	08/04	NSTAR Electric	DTE 04-78	Divestiture of Power Purchase Agreement
NSTAR Electric	07/04	NSTAR Electric	DTE 04-68	Divestiture of Power Purchase Agreement
NSTAR Electric	07/04	NSTAR Electric	DTE 04-61	Divestiture of Power Purchase Agreement

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
NSTAR Electric	06/04	NSTAR Electric	DTE 04-60	Divestiture of Power Purchase Agreement
Unitil Corporation	01/04	Fitchburg Gas and Electric	DTE 03-52	Integrated Resource Plan; Gas Demand Forecast
Bay State Gas Company	01/93	Bay State Gas Company	DPU 93-14	Divestiture of Shelf Registration
Bay State Gas Company	01/91	Bay State Gas Company	DPU 91-25	Divestiture of Shelf Registration
Michigan Public Service Commission				
Indiana Michigan Power Company	05/17	Indiana Michigan Power Company	Case No. U-18370	Return on Equity
Minnesota Public Utilities Commission				
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	08/17	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-17-285	Return on Equity
ALLETE, Inc., d/b/a Minnesota Power Inc.	11/16	ALLETE, Inc., d/b/a Minnesota Power Inc.	Docket No. E015/GR-16-664	Return on Equity
Otter Tail Power Corporation	02/16	Otter Tail Power Company	Docket No. E017/GR-15-1033	Return on Equity
Minnesota Energy Resources Corporation	09/15	Minnesota Energy Resources Corporation	Docket No. G-011/GR-15-736	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	08/15	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-15-424	Return on Equity
Xcel Energy, Inc.	11/13	Northern States Power Company	Docket No. E002/GR-13-868	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	08/13	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-13-316	Return on Equity
Xcel Energy, Inc.	11/12	Northern States Power Company	Docket No. E002/GR-12-961	Return on Equity
Otter Tail Power Corporation	04/10	Otter Tail Power Company	Docket No. E-017/GR-10-239	Return on Equity
Minnesota Power a division of ALLETE, Inc.	11/09	Minnesota Power	Docket No. E-015/GR-09-1151	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	11/08	CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-08-1075	Return on Equity
Otter Tail Power Corporation	10/07	Otter Tail Power Company	Docket No. E-017/GR-07-1178	Return on Equity
Xcel Energy, Inc.	11/05	Northern States Power Company - Minnesota	Docket No. E-002/GR-05-1428	Return on Equity (electric)
Xcel Energy, Inc.	09/04	Northern States Power Company - Minnesota	Docket No. G-002/GR-04-1511	Return on Equity (gas)

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Mississippi Public Service Commission				
CenterPoint Energy Resources, Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Mississippi Gas	07/09	CenterPoint Energy Mississippi Gas	Docket No. 09-UN-334	Return on Equity
Missouri Public Service Commission				
Union Electric Company d/b/a Ameren Missouri	12/18	Union Electric Company d/b/a Ameren Missouri	Case No. GR-2019-0077	Return on Equity
KCP&L Greater Missouri Operations Company	01/18	KCP&L Greater Missouri Operations Company	Case No. ER-2018-0146	Return on Equity
Kansas City Power & Light Company	01/18	Kansas City Power & Light Company	Case No. ER-2018-0145	Return on Equity
Laclede Gas Company and Missouri Gas Energy	11/17	Laclede Gas Company and Missouri Gas Energy	Case No. GR-2017-0215 Case No. GR-2017-0216	Goodwill Adjustment on Capital Structure
Liberty Utilities (Midstates Natural Gas) Corp. d/b/a/ Liberty Utilities	09/17	Liberty Utilities (Midstates Natural Gas) Corp. d/b/a/ Liberty Utilities	Case No. GR-2018-0013	New Ratemaking Mechanisms
Union Electric Company d/b/a Ameren Missouri	07/16	Union Electric Company d/b/a Ameren Missouri	Case No. ER-2016-0179	Return on Equity (electric)
Kansas City Power & Light Company	07/16	Kansas City Power & Light Company	Case No. ER-2016-0285	Return on Equity (electric)
Kansas City Power & Light Company	02/16	Kansas City Power & Light Company	Case No. ER-2016-0156	Return on Equity (electric)
Kansas City Power & Light Company	10/14	Kansas City Power & Light Company	Case No. ER-2014-0370	Return on Equity (electric)
Union Electric Company d/b/a Ameren Missouri	07/14	Union Electric Company d/b/a Ameren Missouri	Case No. ER-2014-0258	Return on Equity (electric)
Union Electric Company d/b/a Ameren Missouri	06/14	Union Electric Company d/b/a Ameren Missouri	Case No. EC-2014-0223	Return on Equity (electric)
Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	02/14	Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	Case No. GR-2014-0152	Return on Equity
Laclede Gas Company	12/12	Laclede Gas Company	Case No. GR-2013-0171	Return on Equity
Union Electric Company d/b/a Ameren Missouri	02/12	Union Electric Company d/b/a Ameren Missouri	Case No. ER-2012-0166	Return on Equity (electric)
Union Electric Company d/b/a AmerenUE	09/10	Union Electric Company d/b/a AmerenUE	Case No. ER-2011-0028	Return on Equity (electric)
Union Electric Company d/b/a AmerenUE	06/10	Union Electric Company d/b/a AmerenUE	Case No. GR-2010-0363	Return on Equity (gas)

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
Montana Public Service Commission				
Northwestern Corporation	09/12	Northwestern Corporation d/b/a Northwestern Energy	Docket No. D2012.9.94	Return on Equity (gas)
Nevada Public Utilities Commission				
Southwest Gas Corporation	05/18	Southwest Gas Corporation	Docket No. 18-05031	Return on Equity (gas)
Southwest Gas Corporation	04/12	Southwest Gas Corporation	Docket No. 12-04005	Return on Equity (gas)
Nevada Power Company	06/11	Nevada Power Company	Docket No. 11-06006	Return on Equity (electric)
New Hampshire Public Utilities Commission				
Northern Utilities, Inc.	06/17	Northern Utilities, Inc.	Docket No. DG 17-070	Return on Equity
Liberty Utilities d/b/a EnergyNorth Natural Gas	04/17	Liberty Utilities d/b/a EnergyNorth Natural Gas	Docket No. DG 17-048	Return on Equity
Unitil Energy Systems, Inc.	04/16	Unitil Energy Systems, Inc.	Docket No. DE 16-384	Return on Equity
Liberty Utilities d/b/a Granite State Electric Company	04/16	Liberty Utilities d/b/a Granite State Electric Company	Docket No. DE 16-383	Return on Equity
Liberty Utilities d/b/a EnergyNorth Natural Gas	08/14	Liberty Utilities d/b/a EnergyNorth Natural Gas	Docket No. DG 14-180	Return on Equity
Liberty Utilities d/b/a Granite State Electric Company	03/13	Liberty Utilities d/b/a Granite State Electric Company	Docket No. DE 13-063	Return on Equity
EnergyNorth Natural Gas d/b/a National Grid NH	02/10	EnergyNorth Natural Gas d/b/a National Grid NH	Docket No. DG 10-017	Return on Equity
Unitil Energy Systems, Inc., EnergyNorth Natural Gas, Inc. d/b/a National Grid NH, Granite State Electric Company d/b/a National Grid, and Northern Utilities, Inc. – New Hampshire Division	08/08	Unitil Energy Systems, Inc., EnergyNorth Natural Gas, Inc. d/b/a National Grid NH, Granite State Electric Company d/b/a National Grid, and Northern Utilities, Inc. – New Hampshire Division	Docket No. DG 07-072	Carrying Charge Rate on Cash Working Capital
New Jersey Board of Public Utilities				
Atlantic City Electric Company	10/18	Atlantic City Electric Company	Docket No. EO18020196	Return on Equity
Atlantic City Electric Company	08/18	Atlantic City Electric Company	Docket No. ER18080925	Return on Equity
Atlantic City Electric Company	06/18	Atlantic City Electric Company	Docket No. ER18060638	Return on Equity
Atlantic City Electric Company	03/17	Atlantic City Electric Company	Docket No. ER17030308	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
Pivotal Utility Holdings, Inc.	08/16	Elizabethtown Gas	Docket No. GR16090826	Return on Equity
The Southern Company; AGL Resources Inc.; AMS Corp. and Pivotal Holdings, Inc. d/b/a Elizabethtown Gas	04/16	The Southern Company; AGL Resources Inc.; AMS Corp. and Pivotal Holdings, Inc. d/b/a Elizabethtown Gas	BPU Docket No. GM15101196	Merger Approval
Atlantic City Electric Company	03/16	Atlantic City Electric Company	Docket No. ER16030252	Return on Equity
Pepco Holdings, Inc.	03/14	Atlantic City Electric Company	Docket No. ER14030245	Return on Equity
Orange and Rockland Utilities	11/13	Rockland Electric Company	Docket No. ER13111135	Return on Equity
Atlantic City Electric Company	12/12	Atlantic City Electric Company	Docket No. ER12121071	Return on Equity
Atlantic City Electric Company	08/11	Atlantic City Electric Company	Docket No. ER11080469	Return on Equity
Pepco Holdings, Inc.	09/06	Atlantic City Electric Company	Docket No. EM06090638	Divestiture and Valuation of Electric Generating Assets
Pepco Holdings, Inc.	12/05	Atlantic City Electric Company	Docket No. EM05121058	Market Value of Electric Generation Assets; Auction
Conectiv	06/03	Atlantic City Electric Company	Docket No. EO03020091	Market Value of Electric Generation Assets; Auction Process
New Mexico Public Regulation Commission				
Public Service Company of New Mexico	12/16	Public Service Company of New Mexico	Case No. 16-00276-UT	Return on Equity (electric)
Public Service Company of New Mexico	08/15	Public Service Company of New Mexico	Case No. 15-00261-UT	Return on Equity (electric)
Public Service Company of New Mexico	12/14	Public Service Company of New Mexico	Case No. 14-00332-UT	Return on Equity (electric)
Public Service Company of New Mexico	12/14	Public Service Company of New Mexico	Case No. 13-00390-UT	Cost of Capital and Financial Integrity
Southwestern Public Service Company	02/11	Southwestern Public Service Company	Case No. 10-00395-UT	Return on Equity (electric)
Public Service Company of New Mexico	06/10	Public Service Company of New Mexico	Case No. 10-00086-UT	Return on Equity (electric)
Public Service Company of New Mexico	09/08	Public Service Company of New Mexico	Case No. 08-00273-UT	Return on Equity (electric)
Xcel Energy, Inc.	07/07	Southwestern Public Service Company	Case No. 07-00319-UT	Return on Equity (electric)
New York State Public Service Commission				
Consolidated Edison Company of New York, Inc.	01/15	Consolidated Edison Company of New York, Inc.	Case No. 15-E-0050	Return on Equity (electric)
Orange and Rockland Utilities, Inc.	11/14	Orange and Rockland Utilities, Inc.	Case Nos. 14-E-0493 and 14-G-0494	Return on Equity (electric and gas)

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Consolidated Edison Company of New York, Inc.	01/13	Consolidated Edison Company of New York, Inc.	Case No. 13-E-0030	Return on Equity (electric)
Niagara Mohawk Corporation d/b/a National Grid for Electric Service	04/12	Niagara Mohawk Corporation d/b/a National Grid for Electric Service	Case No. 12-E-0201	Return on Equity (electric)
Niagara Mohawk Corporation d/b/a National Grid for Gas Service	04/12	Niagara Mohawk Corporation d/b/a National Grid for Gas Service	Case No. 12-G-0202	Return on Equity (gas)
Orange and Rockland Utilities, Inc.	07/11	Orange and Rockland Utilities, Inc.	Case No. 11-E-0408	Return on Equity (electric)
Orange and Rockland Utilities, Inc.	07/10	Orange and Rockland Utilities, Inc.	Case No. 10-E-0362	Return on Equity (electric)
Consolidated Edison Company of New York, Inc.	11/09	Consolidated Edison Company of New York, Inc.	Case No. 09-G-0795	Return on Equity (gas)
Consolidated Edison Company of New York, Inc.	11/09	Consolidated Edison Company of New York, Inc.	Case No. 09-S-0794	Return on Equity (steam)
Niagara Mohawk Power Corporation	07/01	Niagara Mohawk Power Corporation	Case No. 01-E-1046	Power Purchase and Sale Agreement; Standard Offer Service Agreement
North Carolina Utilities Commission				
Duke Energy Carolinas, LLC	08/17	Duke Energy Carolinas, LLC	Docket No. E-7, Sub 1146	Return on Equity
Duke Energy Progress, LLC	06/17	Duke Energy Progress, LLC	Docket No. E-2, Sub 1142	Return on Equity
Public Service Company of North Carolina, Inc.	03/16	Public Service Company of North Carolina, Inc.	Docket No. G-5, Sub 565	Return on Equity
Dominion North Carolina Power	03/16	Dominion North Carolina Power	Docket No. E-22, Sub 532	Return on Equity
Duke Energy Carolinas, LLC	02/13	Duke Energy Carolinas, LLC	Docket No. E-7, Sub 1026	Return on Equity
Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc.	10/12	Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc.	Docket No. E-2, Sub 1023	Return on Equity
Virginia Electric and Power Company d/b/a Dominion North Carolina Power	03/12	Virginia Electric and Power Company d/b/a Dominion North Carolina Power	Docket No. E-22, Sub 479	Return on Equity (electric)
Duke Energy Carolinas, LLC	07/11	Duke Energy Carolinas, LLC	Docket No. E-7, Sub 989	Return on Equity (electric)
North Dakota Public Service Commission				
Otter Tail Power Company	11/17	Otter Tail Power Company	Docket No. 17-398	Return on Equity (electric)
Otter Tail Power Company	11/08	Otter Tail Power Company	Docket No. 08-862	Return on Equity (electric)

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Oklahoma Corporation Commission				
CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Oklahoma Gas	03/16	CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Oklahoma Gas	Cause No. PUD201600094	Return on Equity
Oklahoma Gas & Electric Company	12/15	Oklahoma Gas & Electric Company	Cause No. PUD201500273	Return on Equity
Public Service Company of Oklahoma	07/15	Public Service Company of Oklahoma	Cause No. PUD201500208	Return on Equity
Oklahoma Gas & Electric Company	07/11	Oklahoma Gas & Electric Company	Cause No. PUD201100087	Return on Equity
CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Oklahoma Gas	03/09	CenterPoint Energy Oklahoma Gas	Cause No. PUD200900055	Return on Equity
Pennsylvania Public Utility Commission				
Pike County Light & Power Company	01/14	Pike County Light & Power Company	Docket No. R-2013-2397237	Return on Equity (electric & gas)
Veolia Energy Philadelphia, Inc.	12/13	Veolia Energy Philadelphia, Inc.	Docket No. R-2013-2386293	Return on Equity (steam)
Rhode Island Public Utilities Commission				
The Narragansett Electric Company d/b/a National Grid	02/19	The Narragansett Electric Company d/b/a National Grid	Docket No. 4929	Support for financial remuneration under new power purchase agreement
The Narragansett Electric Company d/b/a National Grid	11/17	The Narragansett Electric Company d/b/a National Grid	Docket No. 4770	Return on Equity (electric & gas)
The Narragansett Electric Company d/b/a National Grid	04/12	The Narragansett Electric Company d/b/a National Grid	Docket No. 4323	Return on Equity (electric & gas)
National Grid RI – Gas	08/08	National Grid RI – Gas	Docket No. 3943	Revenue Decoupling and Return on Equity
South Carolina Public Service Commission				
Duke Energy Carolinas, LLC	11/18	Duke Energy Carolinas, LLC	Docket No. 2018-319-E	Return on Equity
Duke Energy Progress, LLC	11/18	Duke Energy Progress, LLC	Docket No. 2018-318-E	Return on Equity
South Carolina Electric & Gas	08/18	South Carolina Electric & Gas	Docket No. 2017-370-E	Return on Equity
South Carolina Electric & Gas	12/17	South Carolina Electric & Gas	Docket No. 2017-305-E	Return on Equity
Duke Energy Progress, LLC	07/16	Duke Energy Progress, LLC	Docket No. 2016-227-E	Return on Equity
Duke Energy Carolinas, LLC	03/13	Duke Energy Carolinas, LLC	Docket No. 2013-59-E	Return on Equity
South Carolina Electric & Gas	06/12	South Carolina Electric & Gas	Docket No. 2012-218-E	Return on Equity
Duke Energy Carolinas, LLC	08/11	Duke Energy Carolinas, LLC	Docket No. 2011-271-E	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
South Carolina Electric & Gas	03/10	South Carolina Electric & Gas	Docket No. 2009-489-E	Return on Equity
South Dakota Public Utilities Commission				
Otter Tail Power Company	04/18	Otter Tail Power Company	Docket No. EL18-021	Return on Equity (electric)
Otter Tail Power Company	08/10	Otter Tail Power Company	Docket No. EL10-011	Return on Equity (electric)
Northern States Power Company	06/09	South Dakota Division of Northern States Power	Docket No. EL09-009	Return on Equity (electric)
Otter Tail Power Company	10/08	Otter Tail Power Company	Docket No. EL08-030	Return on Equity (electric)
Texas Public Utility Commission				
Texas-New Mexico Power Company	05/18	Texas-New Mexico Power Company	Docket No. 48401	Return on Equity
Entergy Texas, Inc.	05/18	Entergy Texas, Inc.	Docket No. 48371	Return on Equity
Southwestern Public Service Company	08/17	Southwestern Public Service Company	Docket No. 47527	Return on Equity
Oncor Electric Delivery Company, LLC	03/17	Oncor Electric Delivery Company, LLC	Docket No. 46957	Return on Equity
El Paso Electric Company	02/17	El Paso Electric Company	Docket No. 46831	Return on Equity
Southwestern Electric Power Company	12/16	Southwestern Electric Power Company	Docket No. 46449	Return on Equity (electric)
Sharyland Utilities, L.P.	04/16	Sharyland Utilities, L.P.	Docket No. 45414	Return on Equity
Southwestern Public Service Company	02/16	Southwestern Public Service Company	Docket No. 44524	Return on Equity (electric)
Wind Energy Transmission Texas, LLC	05/15	Wind Energy Transmission Texas, LLC	Docket No. 44746	Return on Equity
Cross Texas Transmission	12/14	Cross Texas Transmission	Docket No. 43950	Return on Equity
Southwestern Public Service Company	12/14	Southwestern Public Service Company	Docket No. 43695	Return on Equity (electric)
Sharyland Utilities, L.P.	05/13	Sharyland Utilities, L.P.	Docket No. 41474	Return on Equity
Wind Energy Texas Transmission, LLC	08/12	Wind Energy Texas Transmission, LLC	Docket No. 40606	Return on Equity
Southwestern Electric Power Company	07/12	Southwestern Electric Power Company	Docket No. 40443	Return on Equity
Oncor Electric Delivery Company, LLC	01/11	Oncor Electric Delivery Company, LLC	Docket No. 38929	Return on Equity
Texas-New Mexico Power Company	08/10	Texas-New Mexico Power Company	Docket No. 38480	Return on Equity (electric)
CenterPoint Energy Houston Electric LLC	06/10	CenterPoint Energy Houston Electric LLC	Docket No. 38339	Return on Equity
Xcel Energy, Inc.	05/10	Southwestern Public Service Company	Docket No. 38147	Return on Equity (electric)
Texas-New Mexico Power Company	08/08	Texas-New Mexico Power Company	Docket No. 36025	Return on Equity (electric)
Xcel Energy, Inc.	05/06	Southwestern Public Service Company	Docket No. 32766	Return on Equity (electric)
Texas Railroad Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Atmos Energy Corporation – Mid-Tex Division	10/18	Atmos Energy Corporation – Mid-Tex Division	GUD 10779	Return on Equity
Atmos Energy Corporation – West Texas Division	06/18	Atmos Energy Corporation – West Texas Division	GUD 10743	Return on Equity
Atmos Energy Corporation – Mid-Texas Division	06/18	Atmos Energy Corporation – Mid-Texas Division	GUD 10742	Return on Equity
CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Entex And CenterPoint Energy Texas Gas	11/17	CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Entex And CenterPoint Energy Texas Gas	GUD 10669	Return on Equity
Atmos Pipeline - Texas	01/17	Atmos Pipeline - Texas	GUD 10580	Return on Equity
CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Entex And CenterPoint Energy Texas Gas	12/16	CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Entex And CenterPoint Energy Texas Gas	GUD 10567	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	03/15	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD 10432	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	07/12	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD 10182	Return on Equity
Atmos Energy Corporation – West Texas Division	06/12	Atmos Energy Corporation – West Texas Division	GUD 10174	Return on Equity
Atmos Energy Corporation – Mid-Texas Division	06/12	Atmos Energy Corporation – Mid-Texas Division	GUD 10170	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	12/10	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD 10038	Return on Equity
Atmos Pipeline – Texas	09/10	Atmos Pipeline - Texas	GUD 10000	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	07/09	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD 9902	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Texas Gas	03/08	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Texas Gas	GUD 9791	Return on Equity
Utah Public Service Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
Questar Gas Company	12/07	Questar Gas Company	Docket No. 07-057-13	Return on Equity
Vermont Public Service Board				
Central Vermont Public Service Corporation; Green Mountain Power	02/12	Central Vermont Public Service Corporation; Green Mountain Power	Docket No. 7770	Merger Policy
Central Vermont Public Service Corporation	12/10	Central Vermont Public Service Corporation	Docket No. 7627	Return on Equity (electric)
Green Mountain Power	04/06	Green Mountain Power	Docket Nos. 7175 and 7176	Return on Equity (electric)
Vermont Gas Systems, Inc.	12/05	Vermont Gas Systems	Docket Nos. 7109 and 7160	Return on Equity (gas)
Virginia State Corporation Commission				
Virginia Electric and Power Company	03/17	Virginia Electric and Power Company	Case No. PUR-2017-00038	Return on Equity
Virginia Natural Gas, Inc.	03/17	Virginia Natural Gas, Inc.	Case No. PUE-2016-00143	Return on Equity
Virginia Electric and Power Company	10/16	Virginia Electric and Power Company	Case No. PUE-2016-00112; PUE-2016-00113; PUE-2016-00136	Return on Equity
Washington Gas Light Company	06/16	Washington Gas Light Company	Case No. PUE-2016-00001	Return on Equity
Virginia Electric and Power Company	06/16	Virginia Electric and Power Company	Case Nos. PUE-2016-00063; PUE-2016-00062; PUE-2016-00061; PUE-2016-00060; PUE-2016-00059	Return on Equity
Virginia Electric and Power Company	12/15	Virginia Electric and Power Company	Case Nos. PUE-2015-00058; PUE-2015-00059; PUE-2015-00060; PUE-2015-00061; PUE-2015-00075; PUE-2015-00089; PUE-2015-00102; PUE-2015-00104	Return on Equity
Virginia Electric and Power Company	03/15	Virginia Electric and Power Company	Case No. PUE-2015-00027	Return on Equity
Virginia Electric and Power Company	03/13	Virginia Electric and Power Company	Case No. PUE-2013-00020	Return on Equity
Virginia Natural Gas, Inc.	02/11	Virginia Natural Gas, Inc.	Case No. PUE-2010-00142	Capital Structure
Columbia Gas of Virginia, Inc.	06/06	Columbia Gas of Virginia, Inc.	Case No. PUE-2005-00098	Merger Synergies
Dominion Resources	10/01	Virginia Electric and Power Company	Case No. PUE000584	Corporate Structure and Electric Generation Strategy

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United States District Court, District of South Carolina, Columbia Division				
South Carolina Electric & Gas Company	07/18	South Carolina Electric & Gas Company	Case No. 3:18-CV-01795-JMC	Return on Equity
United States District Court, Western District of Texas, Austin Division				
Southwestern Public Service Company	02/12	Southwestern Public Service Company	C.A. No. A-09-CA-917-SS	PURPA and FERC regulations
American Arbitration Association				
Confidential Client	11/14	Confidential Client	Confidential	Economic harm related to failure to perform

Constant Growth Discounted Cash Flow Model
30 Day Average Stock Price

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company	Ticker	Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	\$2.35	\$75.79	3.10%	3.17%	NA	6.00%	3.50%	4.75%	6.66%	7.92%	9.19%
Alliant Energy Corporation	LNT	\$1.42	\$43.38	3.27%	3.38%	6.00%	7.25%	6.50%	6.58%	9.37%	9.96%	10.64%
Ameren Corporation	AEE	\$1.90	\$67.71	2.81%	2.91%	6.80%	7.70%	7.50%	7.33%	9.70%	10.24%	10.61%
American Electric Power Company, Inc.	AEP	\$2.68	\$77.09	3.48%	3.57%	5.80%	5.74%	4.50%	5.35%	8.05%	8.92%	9.38%
Avangrid, Inc.	AGR	\$1.76	\$49.45	3.56%	3.74%	8.70%	9.20%	12.00%	9.97%	12.41%	13.70%	15.77%
Black Hills Corporation	BKH	\$2.02	\$68.05	3.06%	3.14%	4.70%	4.46%	6.50%	5.22%	7.59%	8.36%	9.66%
CMS Energy Corporation	CMS	\$1.53	\$51.15	2.99%	3.09%	6.40%	7.09%	7.00%	6.83%	9.49%	9.92%	10.19%
Consolidated Edison, Inc.	ED	\$2.96	\$76.88	3.85%	3.91%	3.00%	2.90%	3.00%	2.97%	6.81%	6.87%	6.91%
DTE Energy Company	DTE	\$3.78	\$114.83	3.29%	3.40%	6.00%	5.49%	7.50%	6.33%	8.87%	9.73%	10.92%
Duke Energy Corporation	DUK	\$3.71	\$86.78	4.27%	4.38%	5.00%	4.41%	5.50%	4.97%	8.78%	9.35%	9.89%
El Paso Electric Company	EE	\$1.44	\$51.25	2.81%	2.87%	4.40%	5.10%	3.00%	4.17%	5.85%	7.04%	7.98%
Eversource Energy	ES	\$2.14	\$67.79	3.16%	3.25%	5.90%	5.83%	5.50%	5.74%	8.74%	8.99%	9.15%
Hawaiian Electric Industries, Inc.	HE	\$1.28	\$36.69	3.49%	3.59%	6.40%	7.80%	3.50%	5.90%	7.05%	9.49%	11.42%
NextEra Energy, Inc.	NEE	\$5.00	\$177.20	2.82%	2.94%	7.70%	7.45%	9.00%	8.05%	10.38%	10.99%	11.95%
NorthWestern Corporation	NWE	\$2.30	\$62.50	3.68%	3.73%	2.60%	2.59%	2.50%	2.56%	6.23%	6.29%	6.33%
OGE Energy Corp.	OGE	\$1.46	\$40.48	3.61%	3.71%	5.20%	NA	6.00%	5.60%	8.90%	9.31%	9.71%
Otter Tail Corporation	OTTR	\$1.40	\$48.31	2.90%	3.03%	NA	9.00%	9.00%	9.00%	12.03%	12.03%	12.03%
Pinnacle West Capital Corporation	PNW	\$2.95	\$86.95	3.39%	3.48%	4.60%	4.16%	6.00%	4.92%	7.62%	8.40%	9.49%
PNM Resources, Inc.	PNM	\$1.16	\$41.99	2.76%	2.84%	4.70%	4.10%	7.50%	5.43%	6.92%	8.27%	10.37%
Portland General Electric Company	POR	\$1.45	\$46.90	3.09%	3.16%	3.30%	5.05%	4.00%	4.12%	6.44%	7.27%	8.22%
Southern Company	SO	\$2.40	\$47.59	5.04%	5.12%	4.50%	1.68%	3.50%	3.23%	6.77%	8.35%	9.66%
WEC Energy Group, Inc.	WEC	\$2.36	\$71.63	3.29%	3.38%	4.40%	4.70%	7.00%	5.37%	7.77%	8.75%	10.41%
Xcel Energy Inc.	XEL	\$1.52	\$51.14	2.97%	3.06%	5.90%	6.64%	5.50%	6.01%	8.55%	9.07%	9.71%
PROXY GROUP MEAN				3.33%	3.43%	5.45%	5.81%	5.89%	5.79%	8.43%	9.22%	10.09%
PROXY GROUP MEDIAN				3.28%	3.38%	5.50%	5.74%	6.00%	5.52%	8.30%	9.03%	9.80%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of February 15, 2019

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.5 x [8])

[5] Source: Zacks

[6] Source: Yahoo! Finance

[7] Source: Value Line

[8] Equals Average([5], [6], [7])

[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])

[10] Equals [4] + [8]

[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model
90 Day Average Stock Price

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company	Ticker	Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	\$2.35	\$76.90	3.06%	3.13%	NA	6.00%	3.50%	4.75%	6.61%	7.88%	9.15%
Alliant Energy Corporation	LNT	\$1.42	\$43.76	3.24%	3.35%	6.00%	7.25%	6.50%	6.58%	9.34%	9.93%	10.61%
Ameren Corporation	AEE	\$1.90	\$67.10	2.83%	2.94%	6.80%	7.70%	7.50%	7.33%	9.73%	10.27%	10.64%
American Electric Power Company, Inc.	AEP	\$2.68	\$75.90	3.53%	3.63%	5.80%	5.74%	4.50%	5.35%	8.11%	8.97%	9.43%
Avangrid, Inc.	AGR	\$1.76	\$49.34	3.57%	3.74%	8.70%	9.20%	12.00%	9.97%	12.42%	13.71%	15.78%
Black Hills Corporation	BKH	\$2.02	\$64.12	3.15%	3.23%	4.70%	4.46%	6.50%	5.22%	7.68%	8.45%	9.75%
CMS Energy Corporation	CMS	\$1.53	\$50.75	3.01%	3.12%	6.40%	7.09%	7.00%	6.83%	9.51%	9.95%	10.21%
Consolidated Edison, Inc.	ED	\$2.96	\$77.79	3.81%	3.86%	3.00%	2.90%	3.00%	2.97%	6.76%	6.83%	6.86%
DTE Energy Company	DTE	\$3.78	\$114.88	3.29%	3.39%	6.00%	5.49%	7.50%	6.33%	8.87%	9.72%	10.91%
Duke Energy Corporation	DUK	\$3.71	\$85.94	4.32%	4.42%	5.00%	4.41%	5.50%	4.97%	8.82%	9.39%	9.94%
El Paso Electric Company	EE	\$1.44	\$54.34	2.65%	2.71%	4.40%	5.10%	3.00%	4.17%	5.69%	6.87%	7.82%
Eversource Energy	ES	\$2.14	\$66.19	3.23%	3.33%	5.90%	5.83%	5.50%	5.74%	8.82%	9.07%	9.23%
Hawaiian Electric Industries, Inc.	HE	\$1.28	\$37.01	3.46%	3.56%	6.40%	7.80%	3.50%	5.90%	7.02%	9.46%	11.39%
NextEra Energy, Inc.	NEE	\$5.00	\$175.87	2.84%	2.96%	7.70%	7.45%	9.00%	8.05%	10.40%	11.01%	11.97%
NorthWestern Corporation	NWE	\$2.30	\$61.78	3.72%	3.77%	2.60%	2.59%	2.50%	2.56%	6.27%	6.33%	6.37%
OGE Energy Corp.	OGE	\$1.46	\$39.18	3.73%	3.83%	5.20%	NA	6.00%	5.60%	9.02%	9.43%	9.84%
Otter Tail Corporation	OTTR	\$1.40	\$47.95	2.92%	3.05%	NA	9.00%	9.00%	9.00%	12.05%	12.05%	12.05%
Pinnacle West Capital Corporation	PNW	\$2.95	\$86.69	3.40%	3.49%	4.60%	4.16%	6.00%	4.92%	7.63%	8.41%	9.50%
PNM Resources, Inc.	PNM	\$1.16	\$41.40	2.80%	2.88%	4.70%	4.10%	7.50%	5.43%	6.96%	8.31%	10.41%
Portland General Electric Company	POR	\$1.45	\$46.88	3.09%	3.16%	3.30%	5.05%	4.00%	4.12%	6.44%	7.27%	8.22%
Southern Company	SO	\$2.40	\$46.26	5.19%	5.27%	4.50%	1.68%	3.50%	3.23%	6.91%	8.50%	9.80%
WEC Energy Group, Inc.	WEC	\$2.36	\$70.80	3.33%	3.42%	4.40%	4.70%	7.00%	5.37%	7.81%	8.79%	10.45%
Xcel Energy Inc.	XEL	\$1.52	\$50.58	3.01%	3.10%	5.90%	6.64%	5.50%	6.01%	8.59%	9.11%	9.75%
PROXY GROUP MEAN				3.35%	3.45%	5.45%	5.81%	5.89%	5.79%	8.45%	9.24%	10.11%
PROXY GROUP MEDIAN				3.27%	3.37%	5.50%	5.74%	6.00%	5.52%	8.35%	9.09%	9.89%

Notes

- [1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals indicated number of trading day average as of February 15, 2019
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Zacks
[6] Source: Yahoo! Finance
[7] Source: Value Line
[8] Equals Average([5], [6], [7])
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model
180 Day Average Stock Price

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company	Ticker	Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	\$2.35	\$76.55	3.07%	3.14%	NA	6.00%	3.50%	4.75%	6.62%	7.89%	9.16%
Alliant Energy Corporation	LNT	\$1.42	\$43.06	3.30%	3.41%	6.00%	7.25%	6.50%	6.58%	9.40%	9.99%	10.67%
Ameren Corporation	AEE	\$1.90	\$64.47	2.95%	3.06%	6.80%	7.70%	7.50%	7.33%	9.85%	10.39%	10.76%
American Electric Power Company, Inc	AEP	\$2.68	\$72.93	3.67%	3.77%	5.80%	5.74%	4.50%	5.35%	8.26%	9.12%	9.58%
Avangrid, Inc.	AGR	\$1.76	\$49.90	3.53%	3.70%	8.70%	9.20%	12.00%	9.97%	12.38%	13.67%	15.74%
Black Hills Corporation	BKH	\$2.02	\$61.83	3.27%	3.35%	4.70%	4.46%	6.50%	5.22%	7.80%	8.57%	9.87%
CMS Energy Corporation	CMS	\$1.53	\$49.29	3.10%	3.21%	6.40%	7.09%	7.00%	6.83%	9.60%	10.04%	10.30%
Consolidated Edison, Inc.	ED	\$2.96	\$77.75	3.81%	3.86%	3.00%	2.90%	3.00%	2.97%	6.76%	6.83%	6.86%
DTE Energy Company	DTE	\$3.78	\$111.00	3.41%	3.51%	6.00%	5.49%	7.50%	6.33%	8.99%	9.84%	11.03%
Duke Energy Corporation	DUK	\$3.71	\$82.74	4.48%	4.60%	5.00%	4.41%	5.50%	4.97%	8.99%	9.57%	10.11%
El Paso Electric Company	EE	\$1.44	\$57.24	2.52%	2.57%	4.40%	5.10%	3.00%	4.17%	5.55%	6.73%	7.68%
Evergy, Inc.	EVERG	\$1.90	\$56.71	3.35%	3.49%	7.80%	9.20%	NMF	8.50%	11.28%	11.99%	12.70%
Eversource Energy	ES	\$2.14	\$63.01	3.40%	3.49%	5.90%	5.83%	5.50%	5.74%	8.99%	9.24%	9.40%
Hawaiian Electric Industries, Inc.	HE	\$1.28	\$35.90	3.57%	3.67%	6.40%	7.80%	3.50%	5.90%	7.13%	9.57%	11.50%
NextEra Energy, Inc.	NEE	\$5.00	\$171.99	2.91%	3.02%	7.70%	7.45%	9.00%	8.05%	10.47%	11.07%	12.04%
NorthWestern Corporation	NWE	\$2.30	\$59.97	3.84%	3.88%	2.60%	2.59%	2.50%	2.56%	6.38%	6.45%	6.49%
OGE Energy Corp.	OGE	\$1.46	\$37.55	3.89%	4.00%	5.20%	NA	6.00%	5.60%	9.19%	9.60%	10.00%
Otter Tail Corporation	OTTR	\$1.40	\$47.92	2.92%	3.05%	NA	9.00%	9.00%	9.00%	12.05%	12.05%	12.05%
Pinnacle West Capital Corporation	PNW	\$2.95	\$83.10	3.55%	3.64%	4.60%	4.16%	6.00%	4.92%	7.78%	8.56%	9.66%
PNM Resources, Inc.	PNM	\$1.16	\$40.10	2.89%	2.97%	4.70%	4.10%	7.50%	5.43%	7.05%	8.40%	10.50%
Portland General Electric Company	POR	\$1.45	\$45.72	3.17%	3.24%	3.30%	5.05%	4.00%	4.12%	6.52%	7.35%	8.30%
Southern Company	SO	\$2.40	\$45.92	5.23%	5.31%	4.50%	1.68%	3.50%	3.23%	6.95%	8.54%	9.84%
WEC Energy Group, Inc.	WEC	\$2.36	\$68.11	3.47%	3.56%	4.40%	4.70%	7.00%	5.37%	7.94%	8.92%	10.59%
Xcel Energy Inc.	XEL	\$1.52	\$48.50	3.13%	3.23%	5.90%	6.64%	5.50%	6.01%	8.72%	9.24%	9.88%
PROXY GROUP MEAN				3.43%	3.53%	5.45%	5.81%	5.89%	5.79%	8.53%	9.32%	10.20%
PROXY GROUP MEDIAN				3.37%	3.49%	5.50%	5.74%	6.00%	5.52%	8.49%	9.24%	10.06%

Notes

- [1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals indicated number of trading day average as of February 15, 2019
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [8])
[5] Source: Zacks
[6] Source: Yahoo! Finance
[7] Source: Value Line
[8] Equals Average([5], [6], [7])
[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Ex-Ante Market Risk Premium
Market DCF Method Based - Bloomberg

[1]	[2]	[3]
S&P 500	Current 30-Year	
Est Required	Treasury (30-day	Implied Market
Market Return	average)	Risk Premium
13.75%	3.03%	10.72%

		[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est	DCF Result	Weighted DCF Result
Agilent Technologies Inc	A	\$ 24,869.29	0.10%	0.86%	9.50%	10.40%	0.0105%
American Airlines Group Inc	AAL	\$ 16,143.38	0.07%	1.16%	15.20%	16.45%	0.0108%
Advance Auto Parts Inc	AAP	\$ 12,391.20	0.05%	0.14%	17.37%	17.52%	0.0088%
Apple Inc	AAPL	\$ 803,578.02	3.27%	1.72%	9.40%	11.20%	0.3660%
AbbVie Inc	ABBV	\$ 121,615.89	0.49%	5.34%	8.81%	14.39%	0.0712%
AmenSource/Bergen Corp	ABC	\$ 18,293.05	0.07%	1.85%	8.42%	10.36%	0.0077%
ABIOMED Inc	ABMD	\$ 16,323.77	0.07%	0.00%	29.00%	29.00%	0.0192%
Abbott Laboratories	ABT	\$ 132,164.06	0.54%	1.63%	11.69%	13.41%	0.0721%
Accenture PLC	ACN	\$ 101,653.74	0.41%	1.84%	10.27%	12.20%	0.0504%
Adobe Inc	ADBE	\$ 126,540.49	0.51%	0.00%	16.75%	16.75%	0.0862%
Analog Devices Inc	ADI	\$ 39,049.76	0.16%	1.86%	8.43%	10.37%	0.0165%
Archer-Daniels-Midland Co	ADM	\$ 23,535.85	0.10%	3.38%	1.40%	4.80%	0.0046%
Automatic Data Processing Inc	ADP	\$ 65,200.69	0.27%	1.93%	14.00%	16.07%	0.0426%
Alliance Data Systems Corp	ADS	\$ 9,435.36	0.04%	1.44%	4.43%	5.90%	0.0023%
Autodesk Inc	ADSK	\$ 35,118.07	0.14%	0.00%	54.78%	54.78%	0.0782%
Ameren Corp	AEE	\$ 17,004.71	0.07%	2.79%	6.70%	9.59%	0.0066%
American Electric Power Co Inc	AEP	\$ 39,088.74	0.16%	3.39%	5.96%	9.45%	0.0150%
AES Corp/VA	AES	\$ 11,206.07	0.05%	3.07%	8.66%	11.86%	0.0054%
Aflac Inc	AFL	\$ 37,220.49	0.15%	2.22%	3.43%	5.69%	0.0086%
Allergan PLC	AGN	\$ 46,256.69	0.19%	2.14%	7.11%	9.32%	0.0175%
American International Group Inc	AIG	\$ 36,796.66	0.15%	3.20%	11.00%	14.38%	0.0215%
Apartment Investment & Management Co	AIV	\$ 7,366.79	0.03%	3.27%	-2.74%	0.49%	0.0001%
Assurant Inc	AIZ	\$ 6,094.32	N/A	2.54%	N/A	N/A	N/A
Arthur J. Gallagher & Co	AJG	\$ 14,695.35	0.06%	2.15%	10.17%	12.43%	0.0074%
Akamai Technologies Inc	AKAM	\$ 11,415.28	0.05%	0.00%	16.57%	16.57%	0.0077%
Albemarle Corp	ALB	\$ 8,641.97	0.04%	1.65%	9.81%	11.54%	0.0041%
Align Technology Inc	ALGN	\$ 20,392.82	0.08%	0.00%	23.19%	23.19%	0.0192%
Alaska Air Group Inc	ALK	\$ 8,165.08	0.03%	2.04%	5.60%	7.69%	0.0026%
Allstate Corp/The	ALL	\$ 31,330.68	0.13%	2.05%	7.10%	9.23%	0.0118%
Alleleg PLC	ALLE	\$ 8,703.31	0.04%	0.92%	11.97%	12.95%	0.0046%
Alexion Pharmaceuticals Inc	ALXN	\$ 28,921.41	0.12%	0.00%	16.74%	16.74%	0.0197%
Applied Materials Inc	AMAT	\$ 37,295.79	0.15%	2.20%	9.23%	11.53%	0.0175%
Advanced Micro Devices Inc	AMD	\$ 23,805.48	0.10%	0.00%	15.67%	15.67%	0.0152%
AMETEK Inc	AME	\$ 18,339.48	0.07%	0.73%	8.84%	9.60%	0.0072%
Affiliated Managers Group Inc	AMG	\$ 5,739.24	0.02%	1.27%	4.37%	5.67%	0.0013%
Amgen Inc	AMGN	\$ 117,199.84	0.48%	3.02%	6.16%	9.28%	0.0442%
Ameriprise Financial Inc	AMP	\$ 17,811.68	0.07%	2.91%	11.80%	14.88%	0.0108%
American Tower Corp	AMT	\$ 78,327.55	0.32%	1.76%	15.19%	17.09%	0.0544%
Amazon.com Inc	AMZN	\$ 789,829.69	3.21%	0.00%	37.60%	37.60%	1.2075%
Ansta Networks Inc	ANET	\$ 19,909.04	0.08%	0.00%	21.64%	21.64%	0.0175%
ANSYS Inc	ANSS	\$ 14,580.39	0.06%	0.00%	12.20%	12.20%	0.0072%
Anthem Inc	ANTM	\$ 80,587.70	0.33%	0.99%	11.14%	12.18%	0.0399%
Aon PLC	AON	\$ 41,417.96	0.17%	0.99%	10.90%	11.95%	0.0201%
AO Smith Corp	AOS	\$ 8,671.01	0.04%	1.67%	9.33%	11.08%	0.0039%
Apache Corp	APA	\$ 12,638.80	0.05%	5.50%	-5.19%	0.17%	0.0001%
Anadarko Petroleum Corp	APC	\$ 22,595.82	0.09%	2.60%	23.31%	26.21%	0.0241%
Air Products & Chemicals Inc	APD	\$ 38,233.39	0.16%	2.64%	12.30%	15.10%	0.0235%
Amphenol Corp	APH	\$ 27,629.70	0.11%	0.96%	10.64%	11.65%	0.0131%
Aptiv PLC	APTIV	\$ 21,049.80	0.09%	1.14%	10.66%	11.86%	0.0101%
Alexandria Real Estate Equities Inc	ARE	\$ 15,202.55	0.06%	2.91%	4.80%	7.78%	0.0048%
Arconic Inc	ARNC	\$ 8,480.90	0.03%	0.57%	14.40%	15.01%	0.0052%
Atmos Energy Corp	ATO	\$ 11,344.89	0.05%	2.16%	6.50%	8.73%	0.0040%
Activision Blizzard Inc	ATVI	\$ 34,032.06	0.14%	0.83%	6.65%	7.51%	0.0104%
AvalonBay Communities Inc	AVB	\$ 27,101.30	0.11%	3.11%	5.38%	8.58%	0.0095%
Broadcom Inc	AVGO	\$ 114,821.89	0.47%	3.47%	13.15%	16.85%	0.0787%
Avery Dennison Corp	AVY	\$ 9,095.91	0.04%	2.01%	5.75%	7.82%	0.0029%
American Water Works Co Inc	AWK	\$ 17,707.71	0.07%	1.79%	8.45%	10.31%	0.0074%
American Express Co	AXP	\$ 90,560.93	0.37%	1.50%	14.99%	16.60%	0.0611%
AutoZone Inc	AZO	\$ 23,182.41	0.09%	0.00%	12.80%	12.80%	0.0121%
Boeing Co/The	BA	\$ 236,146.83	0.96%	1.90%	16.70%	18.76%	0.1801%
Bank of America Corp	BAC	\$ 281,472.93	1.14%	2.36%	9.70%	12.17%	0.1393%
Baxter International Inc	BAX	\$ 39,075.11	0.16%	1.14%	12.20%	13.41%	0.0213%
BB&T Corp	BBT	\$ 38,717.33	0.16%	3.37%	9.85%	13.38%	0.0211%
Best Buy Co Inc	BBY	\$ 16,194.53	0.07%	2.99%	11.10%	14.26%	0.0094%
Becton Dickinson and Co	BDX	\$ 66,819.20	0.27%	1.27%	12.41%	13.76%	0.0374%
Franklin Resources Inc	BEN	\$ 16,533.61	0.07%	3.15%	10.00%	13.31%	0.0089%
Brown-Forman Corp	BF/B	\$ 23,403.56	0.10%	1.34%	9.86%	11.27%	0.0107%

		[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
BrightHouse Financial Inc	BHF	\$ 4,930.48	0.02%	0.00%	11.14%	11.14%	0.0022%
Baker Hughes a GE Co	BHGE	\$ 26,732.47	0.11%	2.62%	40.82%	43.97%	0.0478%
Biogen Inc	BIIB	\$ 65,478.45	0.27%	0.00%	5.08%	5.08%	0.0135%
Bank of New York Mellon Corp/The	BK	\$ 50,892.97	0.21%	2.28%	7.33%	9.69%	0.0201%
Booking Holdings Inc	BKNG	\$ 89,581.50	0.36%	0.00%	15.78%	15.78%	0.0575%
BlackRock Inc	BLK	\$ 68,541.37	0.28%	3.07%	9.69%	12.91%	0.0360%
Ball Corp	BLL	\$ 18,360.49	0.07%	0.74%	6.50%	7.26%	0.0054%
Bristol-Myers Squibb Co	BMJ	\$ 84,349.45	0.34%	3.19%	12.78%	16.17%	0.0555%
Broadridge Financial Solutions Inc	BR	\$ 11,608.57	0.05%	1.91%	10.00%	12.00%	0.0057%
Berkshire Hathaway Inc	BRK/B	\$ 505,680.48	2.06%	0.00%	-5.60%	-5.60%	-0.1151%
Boston Scientific Corp	BSX	\$ 55,365.87	0.23%	0.00%	33.46%	33.46%	0.0753%
BorgWarner Inc	BWA	\$ 8,730.79	0.04%	1.65%	5.84%	7.53%	0.0027%
Boston Properties Inc	BXP	\$ 20,638.74	0.08%	2.91%	6.46%	9.46%	0.0079%
Citigroup Inc	C	\$ 156,956.13	0.64%	3.03%	11.07%	14.26%	0.0910%
Conagra Brands Inc	CAG	\$ 11,898.23	0.05%	3.43%	8.00%	11.57%	0.0056%
Cardinal Health Inc	CAH	\$ 16,533.96	0.07%	3.51%	15.67%	19.46%	0.0131%
Caterpillar Inc	CAT	\$ 78,388.92	0.32%	2.58%	13.35%	16.10%	0.0513%
Chubb Ltd	CB	\$ 61,170.48	0.25%	2.28%	10.00%	12.39%	0.0308%
Cboe Global Markets Inc	CBOE	\$ 10,495.37	0.04%	1.40%	13.46%	14.95%	0.0064%
CBRE Group Inc	CBRE	\$ 17,057.65	0.07%	0.00%	8.55%	8.55%	0.0059%
CBS Corp	CBS	\$ 18,946.57	0.08%	1.55%	14.79%	16.45%	0.0127%
Crown Castle International Corp	CCI	\$ 49,853.95	0.20%	3.82%	15.50%	19.61%	0.0398%
Carnival Corp	CCL	\$ 39,358.41	0.16%	3.60%	10.93%	14.73%	0.0236%
Cadence Design Systems Inc	CDNS	\$ 14,835.03	0.06%	0.00%	10.90%	10.90%	0.0066%
Celanese Corp	CE	\$ 12,843.32	0.05%	2.35%	7.05%	9.48%	0.0050%
Celgene Corp	CELG	\$ 63,504.65	0.26%	0.00%	20.70%	20.70%	0.0534%
Cerner Corp	CERN	\$ 18,783.74	0.08%	0.00%	12.93%	12.93%	0.0099%
CF Industries Holdings Inc	CF	\$ 9,640.16	0.04%	2.89%	19.75%	22.92%	0.0090%
Citizens Financial Group Inc	CFG	\$ 17,102.49	0.07%	3.67%	16.69%	20.66%	0.0144%
Church & Dwight Co Inc	CHD	\$ 15,928.79	0.06%	1.42%	8.21%	9.69%	0.0063%
CH Robinson Worldwide Inc	CHRW	\$ 12,574.78	0.05%	2.21%	9.07%	11.38%	0.0058%
Charter Communications Inc	CHTR	\$ 87,671.16	0.36%	0.00%	41.16%	41.16%	0.1467%
Cigna Corp	CI	\$ 75,373.43	0.31%	0.01%	14.10%	14.12%	0.0433%
Cincinnati Financial Corp	CINF	\$ 13,910.82	N/A	2.72%	N/A	N/A	N/A
Colgate-Palmolive Co	CL	\$ 57,659.43	0.23%	2.60%	6.24%	8.92%	0.0209%
Clorox Co/The	CLX	\$ 20,029.52	0.08%	2.49%	4.91%	7.46%	0.0061%
Comerica Inc	CMA	\$ 13,732.87	0.06%	3.02%	16.41%	19.68%	0.0110%
Comcast Corp	CMCSA	\$ 170,945.60	0.70%	2.22%	11.03%	13.37%	0.0929%
CME Group Inc	CME	\$ 62,751.25	0.26%	2.99%	13.40%	16.59%	0.0423%
Chipotle Mexican Grill Inc	CMG	\$ 16,758.48	0.07%	0.00%	20.31%	20.31%	0.0138%
Cummins Inc	CMI	\$ 24,461.47	0.10%	2.98%	6.81%	9.89%	0.0098%
CMS Energy Corp	CMS	\$ 14,955.02	0.06%	2.90%	6.61%	9.60%	0.0058%
Centene Corp	CNC	\$ 26,798.70	0.11%	0.00%	13.68%	13.68%	0.0149%
CenterPoint Energy Inc	CNP	\$ 15,481.72	0.06%	3.63%	6.90%	10.66%	0.0067%
Capital One Financial Corp	COF	\$ 38,150.29	0.16%	2.03%	4.54%	6.61%	0.0102%
Cabot Oil & Gas Corp	COG	\$ 10,878.67	0.04%	1.01%	33.27%	34.44%	0.0152%
Cooper Cos Inc/The	COO	\$ 13,769.08	0.06%	0.02%	10.50%	10.52%	0.0059%
ConocoPhillips	COP	\$ 80,794.16	0.33%	1.76%	6.00%	7.82%	0.0257%
Costco Wholesale Corp	COST	\$ 95,352.97	0.39%	1.09%	10.58%	11.72%	0.0454%
Coty Inc	COTY	\$ 8,293.88	0.03%	4.53%	8.76%	13.49%	0.0045%
Campbell Soup Co	CPB	\$ 10,472.80	0.04%	4.08%	3.16%	7.31%	0.0031%
Capri Holdings Ltd	CPRI	\$ 6,705.02	0.03%	0.00%	6.73%	6.73%	0.0018%
Copart Inc	CPRT	\$ 12,643.86	0.05%	0.00%	10.00%	10.00%	0.0051%
salesforce.com Inc	CRM	\$ 121,673.25	0.49%	0.00%	23.98%	23.98%	0.1186%
Cisco Systems Inc	CSCO	\$ 222,235.39	0.90%	2.76%	6.84%	9.70%	0.0876%
CSX Corp	CSX	\$ 59,165.83	0.24%	1.26%	10.47%	11.80%	0.0284%
Cintas Corp	CTAS	\$ 21,305.00	0.09%	0.99%	12.11%	13.15%	0.0114%
CenturyLink Inc	CTL	\$ 14,848.26	0.06%	11.11%	-15.21%	-4.94%	-0.0030%
Cognizant Technology Solutions Corp	CTSH	\$ 42,444.12	0.17%	1.02%	11.40%	12.47%	0.0215%
Citrix Systems Inc	CTXS	\$ 14,027.48	0.06%	0.00%	11.85%	11.85%	0.0068%
CVS Health Corp	CVS	\$ 89,908.88	0.37%	2.89%	11.30%	14.36%	0.0525%
Chevron Corp	CVX	\$ 228,050.92	0.93%	3.95%	6.36%	10.43%	0.0967%
Concho Resources Inc	CXO	\$ 24,624.77	0.10%	0.00%	31.00%	31.00%	0.0310%
Dominion Energy Inc	D	\$ 58,374.14	0.24%	5.00%	5.72%	10.87%	0.0258%
Delta Air Lines Inc	DAL	\$ 34,680.77	0.14%	2.86%	13.07%	16.11%	0.0227%
Deere & Co	DE	\$ 50,857.82	0.21%	1.83%	10.39%	12.32%	0.0255%
Discover Financial Services	DFS	\$ 23,596.99	0.10%	2.31%	8.80%	11.21%	0.0108%
Dollar General Corp	DG	\$ 31,283.24	0.13%	0.97%	15.00%	16.04%	0.0204%
Quest Diagnostics Inc	DGX	\$ 11,854.35	0.05%	2.38%	7.88%	10.35%	0.0050%
DR Horton Inc	DHI	\$ 14,925.72	0.06%	1.51%	11.80%	13.40%	0.0081%
Danaher Corp	DHR	\$ 77,489.78	0.32%	0.60%	10.00%	10.63%	0.0335%
Walt Disney Co/The	DIS	\$ 167,846.56	0.68%	1.58%	3.76%	5.37%	0.0367%
Discovery Inc	DISCA	\$ 20,510.35	0.08%	0.00%	12.30%	12.30%	0.0103%
DISH Network Corp	DISH	\$ 14,457.62	0.06%	0.00%	-20.68%	-20.68%	-0.0122%
Digital Realty Trust Inc	DLR	\$ 24,962.26	0.10%	3.72%	18.00%	22.06%	0.0224%
Dollar Tree Inc	DLTR	\$ 23,523.33	0.10%	0.00%	9.96%	9.96%	0.0095%
Dover Corp	DOV	\$ 13,345.54	0.05%	2.18%	10.97%	13.27%	0.0072%
Duke Realty Corp	DRE	\$ 10,670.75	0.04%	2.90%	4.50%	7.46%	0.0032%
Darden Restaurants Inc	DRI	\$ 13,847.84	0.06%	2.68%	10.31%	13.13%	0.0074%
DTE Energy Co	DTE	\$ 21,796.44	0.09%	3.17%	5.87%	9.13%	0.0081%

		[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Duke Energy Corp	DUK	\$ 63,619.77	0.26%	4.32%	5.00%	9.43%	0.0244%
DaVita Inc	DVA	\$ 9,833.49	0.04%	0.00%	16.56%	16.56%	0.0066%
Devon Energy Corp	DVN	\$ 13,306.24	0.05%	1.06%	10.92%	12.03%	0.0065%
DowDuPont Inc	DWDP	\$ 122,298.29	0.50%	2.90%	6.17%	9.15%	0.0455%
DXC Technology Co	DXC	\$ 17,561.03	0.07%	1.17%	6.50%	7.71%	0.0055%
Electronic Arts Inc	EA	\$ 32,008.79	0.13%	3.10%	11.87%	15.15%	0.0197%
eBay Inc	EBAY	\$ 33,466.33	0.14%	0.70%	10.67%	11.41%	0.0155%
Ecolab Inc	ECL	\$ 47,224.97	0.19%	1.00%	13.20%	14.27%	0.0274%
Consolidated Edison Inc	ED	\$ 25,524.60	0.10%	3.65%	3.73%	7.44%	0.0077%
Equifax Inc	EFX	\$ 13,180.06	0.05%	1.43%	6.60%	8.08%	0.0043%
Edison International	EIX	\$ 19,711.58	0.08%	4.01%	5.34%	9.46%	0.0076%
Estee Lauder Cos Inc/The	EL	\$ 55,983.80	0.23%	1.07%	11.80%	12.93%	0.0294%
Eastman Chemical Co	EMN	\$ 11,582.88	0.05%	2.87%	6.73%	9.70%	0.0046%
Emerson Electric Co	EMR	\$ 41,984.68	0.17%	2.88%	8.95%	11.95%	0.0204%
EOG Resources Inc	EOG	\$ 58,135.28	0.24%	0.80%	11.06%	11.90%	0.0281%
Equinix Inc	EQIX	\$ 33,875.75	0.14%	2.37%	19.40%	22.00%	0.0303%
Equity Residential	EQR	\$ 27,044.15	0.11%	3.05%	6.31%	9.46%	0.0104%
Eversource Energy	ES	\$ 22,245.38	0.09%	2.89%	5.62%	8.59%	0.0078%
Essex Property Trust Inc	ESS	\$ 18,420.27	0.07%	2.79%	6.02%	8.89%	0.0067%
E*TRADE Financial Corp	ETFC	\$ 11,698.66	0.05%	1.05%	12.08%	13.19%	0.0063%
Eaton Corp PLC	ETN	\$ 34,121.58	0.14%	3.64%	9.23%	13.03%	0.0181%
Entergy Corp	ETR	\$ 16,277.44	0.07%	4.00%	-0.69%	3.29%	0.0022%
Evergy Inc	EVRG	\$ 15,483.26	0.06%	2.79%	8.66%	11.58%	0.0073%
Edwards Lifesciences Corp	EW	\$ 36,936.70	0.15%	0.00%	14.00%	14.00%	0.0210%
Exelon Corp	EXC	\$ 46,614.66	0.19%	3.00%	4.12%	7.18%	0.0136%
Expeditors International of Washington I	EXPD	\$ 12,709.53	0.05%	1.20%	9.60%	10.86%	0.0056%
Expedia Group Inc	EXPE	\$ 18,706.42	0.08%	1.03%	17.20%	18.32%	0.0139%
Extra Space Storage Inc	EXR	\$ 12,616.11	0.05%	3.35%	5.34%	8.78%	0.0045%
Ford Motor Co	F	\$ 33,971.29	0.14%	6.84%	-5.41%	1.25%	0.0017%
Diamondback Energy Inc	FANG	\$ 17,310.99	0.07%	0.41%	15.26%	15.70%	0.0111%
Fastenal Co	FAST	\$ 18,005.11	0.07%	2.70%	14.85%	17.76%	0.0130%
Facebook Inc	FB	\$ 463,773.34	1.89%	0.00%	21.88%	21.88%	0.4126%
Fortune Brands Home & Security Inc	FBHS	\$ 6,702.59	0.03%	1.77%	9.97%	11.82%	0.0032%
Freeport-McMoRan Inc	FCX	\$ 17,794.44	0.07%	1.83%	-12.55%	-10.83%	-0.0078%
FedEx Corp	FDX	\$ 46,805.12	0.19%	1.43%	14.30%	15.84%	0.0301%
FirstEnergy Corp	FE	\$ 20,248.12	0.08%	3.64%	-0.02%	3.62%	0.0030%
F5 Networks Inc	FFIV	\$ 10,181.11	0.04%	0.00%	9.39%	9.39%	0.0039%
Fidelity National Information Services I	FIS	\$ 35,673.30	0.15%	1.29%	12.00%	13.36%	0.0194%
Fiserv Inc	FISV	\$ 34,180.82	0.14%	0.00%	7.40%	7.40%	0.0103%
Fifth Third Bancorp	FITB	\$ 17,568.96	0.07%	3.57%	3.95%	7.59%	0.0054%
Foot Locker Inc	FL	\$ 6,693.26	0.03%	2.30%	6.24%	8.61%	0.0023%
FLIR Systems Inc	FLIR	\$ 7,250.82	N/A	1.30%	N/A	N/A	N/A
Fluor Corp	FLR	\$ 5,107.67	0.02%	2.31%	19.23%	21.77%	0.0045%
Flowserve Corp	FLS	\$ 6,252.35	0.03%	1.61%	20.07%	21.84%	0.0056%
FleetCor Technologies Inc	FLT	\$ 19,233.65	0.08%	0.00%	16.50%	16.50%	0.0129%
FMC Corp	FMC	\$ 11,493.05	0.05%	1.62%	10.27%	11.97%	0.0056%
Twenty-First Century Fox Inc	FOXA	\$ 93,285.81	0.38%	0.79%	2.66%	3.46%	0.0131%
First Republic Bank/CA	FRC	\$ 16,936.76	0.07%	0.75%	12.39%	13.18%	0.0091%
Federal Realty Investment Trust	FRT	\$ 10,075.08	0.04%	3.08%	4.25%	7.39%	0.0030%
TechnipFMC PLC	FTI	\$ 10,624.12	0.04%	2.26%	5.58%	7.90%	0.0034%
Fortinet Inc	FTNT	\$ 14,159.47	0.06%	0.00%	22.10%	22.10%	0.0127%
Fortive Corp	FTV	\$ 27,362.10	0.11%	0.37%	12.93%	13.32%	0.0148%
General Dynamics Corp	GD	\$ 50,510.46	0.21%	2.25%	10.09%	12.46%	0.0256%
General Electric Co	GE	\$ 87,763.98	0.36%	0.40%	1.60%	2.00%	0.0071%
Gilead Sciences Inc	GILD	\$ 86,650.38	0.35%	3.71%	-1.48%	2.20%	0.0078%
General Mills Inc	GIS	\$ 26,877.57	0.11%	4.38%	6.43%	10.95%	0.0120%
Corning Inc	GLW	\$ 27,151.12	0.11%	2.31%	10.39%	12.82%	0.0141%
General Motors Co	GM	\$ 55,096.53	0.22%	3.91%	11.77%	15.91%	0.0356%
Alphabet Inc	GOOGL	\$ 776,123.64	3.16%	0.00%	15.22%	15.22%	0.4804%
Genuine Parts Co	GPC	\$ 15,789.83	0.06%	2.64%	5.62%	8.34%	0.0054%
Global Payments Inc	GP	\$ 19,476.71	0.08%	0.03%	14.67%	14.70%	0.0116%
Gap Inc/The	GPS	\$ 9,562.55	0.04%	3.87%	8.63%	12.66%	0.0049%
Garmin Ltd	GRMN	\$ 13,522.50	0.05%	2.93%	6.03%	9.05%	0.0050%
Goldman Sachs Group Inc/The	GS	\$ 76,735.17	0.31%	1.71%	7.27%	9.04%	0.0282%
Goodyear Tire & Rubber Co/The	GT	\$ 4,362.99	N/A	3.44%	N/A	N/A	N/A
VW Grainger Inc	GWW	\$ 17,832.18	0.07%	1.80%	12.47%	14.38%	0.0104%
Halliburton Co	HAL	\$ 27,790.49	0.11%	2.19%	30.08%	32.60%	0.0368%
Hasbro Inc	HAS	\$ 10,930.25	0.04%	3.15%	8.98%	12.26%	0.0054%
Huntington Bancshares Inc/OH	HBAN	\$ 14,665.85	0.06%	4.23%	8.20%	12.60%	0.0075%
Hanesbrands Inc	HBI	\$ 6,783.93	0.03%	3.34%	3.72%	7.11%	0.0020%
HCA Healthcare Inc	HCA	\$ 49,648.59	0.20%	0.94%	11.56%	12.56%	0.0253%
HCP Inc	HCP	\$ 14,734.48	0.06%	4.82%	2.47%	7.35%	0.0044%
Home Depot Inc/The	HD	\$ 217,309.84	0.88%	2.14%	13.01%	15.29%	0.1351%
Hess Corp	HES	\$ 17,058.26	0.07%	1.76%	-9.49%	-7.81%	-0.0054%
HollyFrontier Corp	HFC	\$ 10,030.75	0.04%	2.30%	7.07%	9.45%	0.0039%
Hartford Financial Services Group Inc/Th	HIG	\$ 17,503.82	0.07%	2.55%	9.50%	12.18%	0.0087%
Huntington Ingalls Industries Inc	HI	\$ 9,124.12	0.04%	1.55%	40.00%	41.86%	0.0155%
Hilton Worldwide Holdings Inc	HLT	\$ 23,940.27	0.10%	0.81%	10.74%	11.59%	0.0113%
Harley-Davidson Inc	HOG	\$ 6,073.66	0.02%	4.20%	8.97%	13.35%	0.0033%
Hologic Inc	HOLX	\$ 13,484.96	0.05%	0.00%	3.10%	3.10%	0.0017%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est	DCF Result	Weighted DCF Result
Honeywell International Inc	HON	\$ 111,783.45	0.45%	2.17%	13.06%	15.37%	0.0699%
Helmench & Payne Inc	HP	\$ 6,279.87	0.03%	4.96%	96.36%	103.70%	0.0265%
Hewlett Packard Enterprise Co	HPE	\$ 22,155.32	0.09%	2.90%	4.86%	7.83%	0.0071%
HP Inc	HPQ	\$ 36,165.35	0.15%	2.73%	6.06%	8.87%	0.0130%
H&R Block Inc	HRB	\$ 4,953.22	0.02%	4.16%	10.00%	14.37%	0.0029%
Hormel Foods Corp	HRL	\$ 23,094.53	0.09%	1.93%	5.80%	7.78%	0.0073%
Harsco Corp	HRS	\$ 19,418.35	0.08%	1.64%	7.00%	8.69%	0.0069%
Henry Schein Inc	HSIC	\$ 9,510.59	0.04%	0.00%	7.53%	7.53%	0.0029%
Host Hotels & Resorts Inc	HST	\$ 13,832.04	0.06%	4.46%	4.57%	9.13%	0.0051%
Hershey Co/The	HSY	\$ 22,942.48	0.09%	2.70%	8.00%	10.81%	0.0101%
Humana Inc	HUM	\$ 42,066.34	0.17%	0.63%	14.11%	14.79%	0.0253%
International Business Machines Corp	IBM	\$ 125,440.81	0.51%	4.71%	3.59%	8.38%	0.0428%
Intercontinental Exchange Inc	ICE	\$ 42,921.60	0.17%	1.42%	8.02%	9.50%	0.0166%
IDEXX Laboratories Inc	IDXX	\$ 18,083.73	0.07%	0.00%	18.21%	18.21%	0.0134%
International Flavors & Fragrances Inc	IFF	\$ 14,074.80	0.06%	2.15%	9.00%	11.24%	0.0064%
illumina Inc	ILMN	\$ 44,073.54	0.18%	0.00%	25.16%	25.16%	0.0451%
Incyte Corp	INCY	\$ 18,012.17	0.07%	0.00%	47.53%	47.53%	0.0348%
IHS Markit Ltd	INFO	\$ 21,226.97	0.09%	0.00%	11.21%	11.21%	0.0097%
Intel Corp	INTC	\$ 232,315.02	0.94%	2.44%	8.54%	11.09%	0.1047%
Intuit Inc	INTU	\$ 60,554.77	0.25%	0.79%	15.87%	16.72%	0.0412%
International Paper Co	IP	\$ 19,097.09	0.08%	4.28%	6.08%	10.48%	0.0081%
Interpublic Group of Cos Inc/The	IPG	\$ 8,886.14	0.04%	3.98%	8.53%	12.67%	0.0046%
IPG Photonics Corp	IPGP	\$ 8,199.60	0.03%	0.00%	9.24%	9.24%	0.0031%
IQVIA Holdings Inc	IQV	\$ 28,015.38	0.11%	0.00%	15.23%	15.23%	0.0173%
Ingersoll-Rand PLC	IR	\$ 25,362.32	0.10%	2.08%	9.92%	12.11%	0.0125%
Iron Mountain Inc	IRM	\$ 10,057.16	0.04%	7.02%	7.16%	14.43%	0.0059%
Intuitive Surgical Inc	ISRG	\$ 62,797.00	0.26%	0.00%	12.95%	12.95%	0.0331%
Gartner Inc	IT	\$ 13,018.77	0.05%	0.00%	14.02%	14.02%	0.0074%
Illinois Tool Works Inc	ITW	\$ 47,316.51	0.19%	2.78%	7.90%	10.79%	0.0208%
Invesco Ltd	IVZ	\$ 7,757.79	0.03%	6.58%	4.30%	11.02%	0.0035%
JB Hunt Transport Services Inc	JBHT	\$ 12,401.34	0.05%	0.89%	18.78%	19.75%	0.0100%
Johnson Controls International plc	JCI	\$ 32,036.23	0.13%	3.07%	7.63%	10.82%	0.0141%
Jacobs Engineering Group Inc	JEC	\$ 9,587.60	0.04%	0.84%	13.57%	14.46%	0.0056%
Jefferies Financial Group Inc	JEF	\$ 6,790.99	N/A	2.38%	N/A	N/A	N/A
Jack Henry & Associates Inc	JKHY	\$ 10,325.46	0.04%	1.15%	11.00%	12.21%	0.0051%
Johnson & Johnson	JNJ	\$ 365,768.16	1.49%	2.79%	7.26%	10.15%	0.1510%
Juniper Networks Inc	JNPR	\$ 9,360.59	0.04%	2.78%	8.63%	11.53%	0.0044%
JPMorgan Chase & Co	JPM	\$ 350,997.10	1.43%	3.20%	9.33%	12.68%	0.1810%
Nordstrom Inc	JWN	\$ 7,435.87	0.03%	3.38%	10.55%	14.10%	0.0043%
Kellogg Co	K	\$ 19,707.33	0.08%	4.15%	3.68%	7.91%	0.0063%
KeyCorp	KEY	\$ 17,851.50	0.07%	4.23%	13.17%	17.68%	0.0128%
Keysight Technologies Inc	KEYS	\$ 15,086.18	0.06%	0.00%	17.00%	17.00%	0.0104%
Kraft Heinz Co/The	KHC	\$ 58,069.49	0.24%	5.32%	3.30%	8.71%	0.0206%
Kimco Realty Corp	KIM	\$ 7,483.81	0.03%	6.36%	3.86%	10.34%	0.0031%
KLA-Tencor Corp	KLAC	\$ 16,376.07	0.07%	2.76%	7.15%	10.00%	0.0067%
Kimberly-Clark Corp	KMB	\$ 40,794.48	0.17%	3.47%	6.09%	9.66%	0.0160%
Kinder Morgan Inc/DE	KMI	\$ 42,556.74	0.17%	5.29%	10.00%	15.56%	0.0269%
CarMax Inc	KMX	\$ 10,555.61	0.04%	0.00%	12.92%	12.92%	0.0055%
Coca-Cola Co/The	KO	\$ 192,564.69	0.78%	3.64%	6.72%	10.48%	0.0821%
Kroger Co/The	KR	\$ 23,533.42	0.10%	1.84%	6.43%	8.34%	0.0080%
Kohl's Corp	KSS	\$ 10,886.98	0.04%	3.70%	10.60%	14.50%	0.0064%
Kansas City Southern	KSU	\$ 10,855.25	0.04%	1.42%	8.97%	10.45%	0.0046%
Loews Corp	L	\$ 14,537.68	N/A	0.60%	N/A	N/A	N/A
L Brands Inc	LB	\$ 7,521.92	0.03%	8.80%	10.72%	19.99%	0.0061%
Leggett & Platt Inc	LEG	\$ 5,862.28	0.02%	3.43%	10.00%	13.60%	0.0032%
Lennar Corp	LEN	\$ 15,491.69	0.06%	0.33%	12.74%	13.09%	0.0082%
Laboratory Corp of America Holdings	LH	\$ 15,152.15	0.06%	0.00%	7.61%	7.61%	0.0047%
Linde PLC	LIN	\$ 92,033.63	0.37%	1.81%	19.10%	21.09%	0.0789%
LKQ Corp	LKQ	\$ 8,639.20	0.04%	0.00%	13.85%	13.85%	0.0049%
L3 Technologies Inc	LLL	\$ 16,702.77	0.07%	1.56%	10.49%	12.13%	0.0082%
Eli Lilly & Co	LLY	\$ 129,745.79	0.53%	2.03%	10.72%	12.86%	0.0678%
Lockhead Martin Corp	LMT	\$ 86,811.69	0.35%	2.91%	7.61%	10.63%	0.0375%
Lincoln National Corp	LNC	\$ 13,160.19	0.05%	2.43%	9.00%	11.54%	0.0062%
Alliant Energy Corp	LNT	\$ 10,993.85	0.04%	2.98%	6.49%	9.57%	0.0043%
Lowe's Cos Inc	LOW	\$ 83,700.24	0.34%	1.74%	15.17%	17.04%	0.0580%
Lam Research Corp	LRCX	\$ 27,633.15	0.11%	2.24%	-0.42%	1.82%	0.0020%
Southwest Airlines Co	LUV	\$ 31,890.15	0.13%	1.20%	10.73%	12.00%	0.0156%
Lamb Weston Holdings Inc	LW	\$ 10,182.66	0.04%	1.14%	11.02%	12.22%	0.0051%
LyondellBasell Industries NV	LYB	\$ 32,952.64	0.13%	4.64%	6.80%	11.60%	0.0155%
Macy's Inc	M	\$ 7,649.78	0.03%	6.16%	-0.17%	5.99%	0.0019%
Mastercard Inc	MA	\$ 227,864.66	0.93%	0.52%	16.68%	17.24%	0.1598%
Mid-America Apartment Communities Inc	MAA	\$ 11,859.62	0.05%	3.70%	7.00%	10.83%	0.0052%
Macerich Co/The	MAC	\$ 6,162.51	0.03%	6.94%	2.39%	9.41%	0.0024%
Marmott International Inc/MD	MAR	\$ 41,293.82	0.17%	1.29%	12.10%	13.47%	0.0226%
Masco Corp	MAS	\$ 11,031.69	0.04%	1.27%	12.50%	13.85%	0.0062%
Mattel Inc	MAT	\$ 4,769.98	0.02%	0.00%	10.00%	10.00%	0.0019%
McDonald's Corp	MCD	\$ 138,740.72	0.56%	2.60%	8.74%	11.45%	0.0646%
Microchip Technology Inc	MCHP	\$ 21,587.87	0.09%	1.60%	12.39%	14.09%	0.0124%
McKesson Corp	MCK	\$ 26,003.83	0.11%	1.09%	7.96%	9.09%	0.0096%
Moody's Corp	MCO	\$ 32,430.22	0.13%	1.15%	12.80%	14.02%	0.0185%

		[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Mondelez International Inc	MDLZ	\$ 69,551.20	0.28%	2.17%	7.33%	9.58%	0.0271%
Medtronic PLC	MDT	\$ 123,922.80	0.50%	2.15%	7.94%	10.18%	0.0513%
MetLife Inc	MET	\$ 43,002.80	0.17%	3.90%	8.46%	12.53%	0.0219%
MGM Resorts International	MGM	\$ 15,145.09	0.06%	1.79%	3.32%	5.15%	0.0032%
Mohawk Industries Inc	MHK	\$ 10,329.24	0.04%	0.00%	7.59%	7.59%	0.0032%
McCormick & Co Inc/MD	MKC	\$ 16,985.21	0.07%	1.78%	6.10%	7.93%	0.0055%
Martin Marietta Materials Inc	MLM	\$ 11,919.06	0.05%	1.03%	13.29%	14.39%	0.0070%
Marsh & McLennan Cos Inc	MMC	\$ 45,918.03	0.19%	1.92%	11.80%	13.83%	0.0258%
3M Co	MMM	\$ 120,261.59	0.49%	2.75%	7.70%	10.55%	0.0516%
Monster Beverage Corp	MNST	\$ 32,470.02	0.13%	0.00%	15.40%	15.40%	0.0203%
Altria Group Inc	MO	\$ 91,341.57	0.37%	6.73%	8.50%	15.52%	0.0576%
Mosaic Co/The	MOS	\$ 12,377.44	0.05%	0.31%	7.00%	7.32%	0.0037%
Marathon Petroleum Corp	MPC	\$ 45,009.11	0.18%	3.21%	16.14%	19.61%	0.0359%
Merck & Co Inc	MRK	\$ 207,536.05	0.84%	2.76%	8.33%	11.20%	0.0945%
Marathon Oil Corp	MRO	\$ 14,198.19	0.06%	1.17%	0.45%	1.62%	0.0009%
Morgan Stanley	MS	\$ 71,383.00	0.29%	3.12%	13.50%	16.83%	0.0488%
MSCI Inc	MSCI	\$ 14,749.31	0.06%	1.28%	13.10%	14.46%	0.0087%
Microsoft Corp	MSFT	\$ 830,286.94	3.38%	1.65%	11.68%	13.43%	0.4533%
Motorola Solutions Inc	MSI	\$ 22,717.48	0.09%	1.67%	4.10%	5.80%	0.0054%
M&T Bank Corp	MTB	\$ 24,179.42	0.10%	2.49%	10.45%	13.07%	0.0128%
Mettler-Toledo International Inc	MTD	\$ 16,584.54	0.07%	0.00%	12.66%	12.66%	0.0085%
Micron Technology Inc	MU	\$ 47,072.76	0.19%	0.34%	-3.30%	-2.97%	-0.0057%
Maxim Integrated Products Inc	MXIM	\$ 15,269.30	0.06%	3.29%	8.93%	12.37%	0.0077%
Mylan NV	MYL	\$ 16,417.71	0.07%	0.00%	6.01%	6.01%	0.0040%
Noble Energy Inc	NBL	\$ 10,862.65	0.04%	1.88%	25.48%	27.59%	0.0122%
Norwegian Cruise Line Holdings Ltd	NCLH	\$ 11,665.33	0.05%	0.00%	12.82%	12.82%	0.0061%
Nasdaq Inc	NDAQ	\$ 14,388.87	0.06%	2.11%	8.16%	10.36%	0.0061%
NextEra Energy Inc	NEE	\$ 87,961.05	0.36%	2.71%	7.90%	10.72%	0.0383%
Newmont Mining Corp	NEM	\$ 17,770.60	0.07%	1.67%	-3.00%	-1.36%	-0.0010%
Netflix Inc	NFLX	\$ 155,808.94	0.63%	0.00%	36.80%	36.80%	0.2331%
NiSource Inc	NI	\$ 10,086.21	0.04%	2.87%	5.54%	8.49%	0.0035%
NIKE Inc	NKE	\$ 134,370.83	0.55%	0.99%	18.34%	19.42%	0.1061%
Nektar Therapeutics	NKTR	\$ 7,215.92	N/A	0.00%	N/A	N/A	N/A
Nielsen Holdings PLC	NLSN	\$ 9,341.96	N/A	5.27%	N/A	N/A	N/A
Northrop Grumman Corp	NOC	\$ 48,711.27	0.20%	1.81%	8.89%	10.78%	0.0214%
National Oilwell Varco Inc	NOV	\$ 11,430.15	0.05%	0.73%	77.76%	78.78%	0.0366%
NRG Energy Inc	NRG	\$ 12,310.43	0.05%	0.28%	46.03%	46.38%	0.0232%
Norfolk Southern Corp	NSC	\$ 48,909.56	0.20%	1.86%	9.13%	11.07%	0.0220%
NetApp Inc	NTAP	\$ 16,128.26	0.07%	2.44%	13.23%	15.83%	0.0104%
Northern Trust Corp	NTRS	\$ 20,609.69	0.08%	2.63%	12.53%	15.32%	0.0128%
Nucor Corp	NUE	\$ 18,678.99	0.08%	2.67%	0.85%	3.53%	0.0027%
NVIDIA Corp	NVDA	\$ 95,977.40	0.39%	0.43%	7.86%	8.30%	0.0324%
Newell Brands Inc	NWL	\$ 8,010.29	0.03%	5.10%	1.98%	7.13%	0.0023%
News Corp	NWSA	\$ 7,494.12	0.03%	1.68%	-9.13%	-7.52%	-0.0023%
Realty Income Corp	O	\$ 20,684.71	0.08%	3.75%	6.59%	10.47%	0.0088%
ONEOK Inc	OKE	\$ 27,853.29	0.11%	4.84%	23.23%	28.63%	0.0324%
Omnicom Group Inc	OMC	\$ 16,776.81	0.07%	3.45%	5.22%	8.76%	0.0060%
Oracle Corp	ORCL	\$ 185,618.89	0.75%	1.48%	7.54%	9.07%	0.0685%
O'Reilly Automotive Inc	ORLY	\$ 30,669.04	0.12%	0.00%	15.58%	15.58%	0.0194%
Occidental Petroleum Corp	OXY	\$ 50,730.19	0.21%	4.66%	-0.50%	4.15%	0.0086%
Paychex Inc	PAYX	\$ 27,211.93	0.11%	3.01%	9.25%	12.40%	0.0137%
People's United Financial Inc	PBCT	\$ 6,546.11	0.03%	4.12%	2.00%	6.16%	0.0016%
PACCAR Inc	PCAR	\$ 23,603.46	0.10%	3.98%	6.10%	10.21%	0.0098%
Public Service Enterprise Group Inc	PEG	\$ 28,466.93	0.12%	3.19%	6.64%	9.94%	0.0115%
PepsiCo Inc	PEP	\$ 162,817.17	0.66%	3.36%	6.68%	10.15%	0.0672%
Pfizer Inc	PFE	\$ 245,092.12	1.00%	3.40%	5.45%	8.94%	0.0891%
Principal Financial Group Inc	PFG	\$ 14,135.55	0.06%	4.39%	4.16%	8.64%	0.0050%
Procter & Gamble Co/The	PG	\$ 246,355.57	1.00%	2.95%	6.60%	9.64%	0.0966%
Progressive Corp/The	PGR	\$ 41,608.71	0.17%	1.99%	8.00%	10.07%	0.0170%
Parker-Hannifin Corp	PH	\$ 22,465.59	0.09%	1.73%	9.52%	11.33%	0.0104%
PulteGroup Inc	PHM	\$ 7,516.09	0.03%	1.62%	7.17%	8.84%	0.0027%
Packaging Corp of America	PKG	\$ 9,305.15	0.04%	3.12%	8.25%	11.50%	0.0044%
PerkinElmer Inc	PKI	\$ 10,455.37	0.04%	0.31%	15.49%	15.82%	0.0067%
Prologis Inc	PLD	\$ 44,815.14	0.18%	2.82%	6.87%	9.78%	0.0178%
Philip Morris International Inc	PM	\$ 129,745.61	0.53%	5.61%	9.06%	14.93%	0.0787%
PNC Financial Services Group Inc/The	PNC	\$ 56,736.55	0.23%	3.30%	7.37%	10.78%	0.0249%
Pentair PLC	PNR	\$ 7,416.24	0.03%	1.86%	10.22%	12.17%	0.0037%
Pinnacle West Capital Corp	PNW	\$ 10,082.69	0.04%	3.16%	4.99%	8.22%	0.0034%
PPG Industries Inc	PPG	\$ 26,173.83	0.11%	1.77%	7.49%	9.33%	0.0099%
PPL Corp	PPL	\$ 21,941.04	0.09%	5.53%	6.17%	11.87%	0.0106%
Pernco Co PLC	PRGO	\$ 6,650.18	0.03%	1.51%	1.17%	2.68%	0.0007%
Prudential Financial Inc	PRU	\$ 38,507.35	0.16%	4.24%	9.00%	13.43%	0.0210%
Public Storage	PSA	\$ 36,222.48	0.15%	3.85%	4.45%	8.39%	0.0124%
Phillips 66	PSX	\$ 44,263.42	0.18%	3.58%	5.70%	9.39%	0.0169%
PVH Corp	PVH	\$ 8,550.51	0.03%	0.14%	11.03%	11.17%	0.0039%
Quanta Services Inc	PWR	\$ 5,239.44	0.02%	0.00%	25.00%	25.00%	0.0053%
Pioneer Natural Resources Co	PXD	\$ 24,776.66	0.10%	0.29%	26.85%	27.18%	0.0274%
PayPal Holdings Inc	PYPL	\$ 111,349.30	0.45%	0.00%	22.12%	22.12%	0.1002%
QUALCOMM Inc	QCOM	\$ 62,911.69	0.26%	4.86%	11.71%	16.86%	0.0431%
Qorvo Inc	QRVO	\$ 8,000.90	0.03%	0.00%	11.83%	11.83%	0.0038%

		[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est	DCF Result	Weighted DCF Result
Royal Caribbean Cruises Ltd	RCL	\$ 24,657.73	0.10%	2.37%	11.72%	14.22%	0.0143%
Everest Re Group Ltd	RE	\$ 8,818.42	0.04%	2.55%	10.00%	12.67%	0.0045%
Regency Centers Corp	REG	\$ 11,248.46	0.05%	3.45%	6.04%	9.59%	0.0044%
Regeneron Pharmaceuticals Inc	REGN	\$ 46,330.25	0.19%	0.00%	13.90%	13.90%	0.0262%
Regions Financial Corp	RF	\$ 16,541.92	0.07%	3.78%	14.52%	18.58%	0.0125%
Robert Half International Inc	RHI	\$ 7,975.88	0.03%	1.82%	13.20%	15.13%	0.0049%
Red Hat Inc	RHT	\$ 31,990.11	0.13%	0.00%	18.40%	18.40%	0.0239%
Raymond James Financial Inc	RJF	\$ 11,611.66	0.05%	1.57%	12.30%	13.97%	0.0066%
Ralph Lauren Corp	RL	\$ 9,834.82	0.04%	1.95%	6.84%	8.86%	0.0035%
ResMed Inc	RMD	\$ 14,394.49	0.06%	1.49%	12.50%	14.09%	0.0082%
Rockwell Automation Inc	ROK	\$ 21,205.90	0.09%	2.19%	8.44%	10.72%	0.0092%
Rollins Inc	ROL	\$ 13,128.74	0.05%	1.96%	10.00%	12.05%	0.0064%
Roper Technologies Inc	ROP	\$ 32,266.29	0.13%	0.58%	11.13%	11.75%	0.0154%
Ross Stores Inc	ROST	\$ 34,839.05	0.14%	0.96%	10.50%	11.51%	0.0163%
Republic Services Inc	RSG	\$ 24,967.01	0.10%	1.94%	9.98%	12.02%	0.0122%
Raytheon Co	RTN	\$ 52,104.14	0.21%	2.01%	10.03%	12.14%	0.0257%
SBA Communications Corp	SBAC	\$ 21,021.13	0.09%	0.00%	45.90%	45.90%	0.0392%
Starbucks Corp	SBUX	\$ 87,934.96	0.36%	2.11%	13.22%	15.47%	0.0553%
Charles Schwab Corp/The	SCHW	\$ 62,606.99	0.25%	1.32%	19.78%	21.23%	0.0540%
Sealed Air Corp	SEE	\$ 6,614.39	0.03%	1.57%	6.04%	7.66%	0.0021%
Sherwin-Williams Co/The	SHW	\$ 41,118.81	0.17%	0.97%	10.74%	11.76%	0.0197%
SVB Financial Group	SIVB	\$ 12,986.24	0.05%	0.01%	11.00%	11.01%	0.0058%
JM Smucker Co/The	SJM	\$ 11,760.32	0.05%	3.24%	2.99%	6.27%	0.0030%
Schlumberger Ltd	SLB	\$ 62,164.25	0.25%	4.47%	33.69%	38.92%	0.0984%
SL Green Realty Corp	SLG	\$ 7,759.15	0.03%	3.72%	-0.59%	3.13%	0.0010%
Snap-on Inc	SNA	\$ 8,775.11	0.04%	2.39%	7.93%	10.41%	0.0037%
Synopsys Inc	SNPS	\$ 15,198.20	0.06%	0.00%	15.20%	15.20%	0.0094%
Southern Co/The	SO	\$ 49,246.45	0.20%	4.92%	3.38%	8.37%	0.0168%
Simon Property Group Inc	SPG	\$ 56,663.01	0.23%	4.51%	4.70%	9.32%	0.0215%
S&P Global Inc	SPGI	\$ 49,302.35	0.20%	1.13%	11.05%	12.25%	0.0245%
Sempra Energy	SRE	\$ 31,542.08	0.13%	3.11%	9.96%	13.22%	0.0170%
SunTrust Banks Inc	STI	\$ 28,805.28	0.12%	3.27%	9.18%	12.60%	0.0148%
State Street Corp	STT	\$ 26,847.04	0.11%	2.86%	8.69%	11.68%	0.0127%
Seagate Technology PLC	STX	\$ 12,878.34	0.05%	5.51%	2.88%	8.47%	0.0044%
Constellation Brands Inc	STZ	\$ 33,211.33	0.14%	1.69%	8.64%	10.40%	0.0140%
Stanley Black & Decker Inc	SWK	\$ 20,603.09	0.08%	1.96%	10.50%	12.57%	0.0105%
Skyworks Solutions Inc	SWKS	\$ 14,513.51	0.06%	1.87%	8.87%	10.82%	0.0064%
Synchrony Financial	SYF	\$ 22,538.13	0.09%	2.84%	6.20%	9.13%	0.0084%
Stryker Corp	SYK	\$ 69,624.93	0.28%	1.20%	8.64%	9.90%	0.0280%
Symantec Corp	SYMC	\$ 14,797.88	0.06%	1.32%	7.50%	8.87%	0.0053%
Sysco Corp	SYYY	\$ 34,679.27	0.14%	2.24%	12.53%	14.91%	0.0210%
AT&T Inc	T	\$ 221,882.54	0.90%	6.71%	11.87%	11.87%	0.1070%
Molson Coors Brewing Co	TAP	\$ 13,190.49	0.05%	3.36%	0.26%	3.62%	0.0019%
TransDigm Group Inc	TDG	\$ 23,279.51	0.09%	0.00%	11.79%	11.79%	0.0112%
TE Connectivity Ltd	TEL	\$ 27,833.50	0.11%	2.16%	11.18%	13.46%	0.0152%
Teleflex Inc	TFX	\$ 13,145.83	0.05%	0.48%	12.95%	13.46%	0.0072%
Target Corp	TGT	\$ 38,010.36	0.15%	3.54%	6.44%	10.09%	0.0156%
Tiffany & Co	TIF	\$ 11,071.92	0.05%	2.36%	10.53%	13.01%	0.0059%
TJX Cos Inc/The	TJX	\$ 61,940.89	0.25%	1.52%	11.18%	12.77%	0.0322%
Torchmark Corp	TMK	\$ 9,298.01	0.04%	0.81%	7.53%	8.37%	0.0032%
Thermo Fisher Scientific Inc	TMO	\$ 101,646.51	0.41%	0.28%	11.00%	11.30%	0.0467%
Tapestry Inc	TPR	\$ 10,413.11	0.04%	3.78%	10.33%	14.31%	0.0061%
TnpAdvisor Inc	TRIP	\$ 7,834.17	0.03%	0.00%	10.16%	10.16%	0.0032%
T Rowe Price Group Inc	TROW	\$ 23,054.60	0.09%	3.09%	4.27%	7.43%	0.0070%
Travelers Cos Inc/The	TRV	\$ 33,908.96	0.14%	2.50%	17.69%	20.41%	0.0281%
Tractor Supply Co	TSCO	\$ 11,911.40	0.05%	1.37%	12.09%	13.53%	0.0066%
Tyson Foods Inc	TSN	\$ 22,869.39	N/A	2.52%	N/A	N/A	N/A
Total System Services Inc	TSS	\$ 16,926.92	0.07%	0.57%	12.14%	12.75%	0.0088%
Take-Two Interactive Software Inc	TTWO	\$ 10,558.01	0.04%	3.32%	10.30%	13.79%	0.0059%
Twitter Inc	TWTR	\$ 23,773.85	0.10%	0.00%	37.35%	37.35%	0.0361%
Texas Instruments Inc	TXN	\$ 103,325.64	0.42%	2.92%	10.48%	13.54%	0.0569%
Textron Inc	TXT	\$ 12,865.11	0.05%	0.16%	12.56%	12.72%	0.0067%
Under Armour Inc	UAA	\$ 8,971.16	0.04%	0.00%	34.93%	34.93%	0.0127%
United Continental Holdings Inc	UAL	\$ 24,061.33	0.10%	0.00%	14.17%	14.17%	0.0139%
UDR Inc	UDR	\$ 12,286.59	0.05%	3.03%	5.60%	8.71%	0.0044%
Universal Health Services Inc	UHS	\$ 12,538.20	0.05%	0.28%	9.82%	10.12%	0.0052%
Ulta Beauty Inc	ULTA	\$ 18,170.87	0.07%	0.00%	19.00%	19.00%	0.0140%
UnitedHealth Group Inc	UNH	\$ 260,159.68	1.06%	1.33%	13.73%	15.15%	0.1602%
Unum Group	UNM	\$ 7,792.56	0.03%	2.95%	9.00%	12.08%	0.0038%
Union Pacific Corp	UNP	\$ 123,062.72	0.50%	2.06%	13.86%	16.07%	0.0804%
United Parcel Service Inc	UPS	\$ 95,126.46	0.39%	3.43%	9.71%	13.31%	0.0515%
United Rentals Inc	URI	\$ 10,733.65	0.04%	0.00%	17.76%	17.76%	0.0078%
US Bancorp	USB	\$ 82,506.48	0.34%	3.08%	7.83%	11.03%	0.0370%
United Technologies Corp	UTX	\$ 110,097.03	0.45%	2.33%	9.80%	12.25%	0.0548%
Visa Inc	V	\$ 290,888.98	1.18%	0.69%	15.59%	16.34%	0.1932%
Vanan Medical Systems Inc	VAR	\$ 12,049.81	0.05%	0.00%	16.10%	16.10%	0.0079%
VF Corp	VFC	\$ 34,378.11	0.14%	2.08%	-16.64%	-14.74%	-0.0206%
Viacom Inc	VIAB	\$ 12,016.92	0.05%	2.77%	3.67%	6.48%	0.0032%
Valero Energy Corp	VLO	\$ 35,811.62	0.15%	4.24%	19.17%	23.82%	0.0347%
Vulcan Materials Co	VMC	\$ 14,939.89	0.06%	1.09%	15.34%	16.52%	0.0100%

		[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Vornado Realty Trust	VNO	\$ 13,108.84	0.05%	3.77%	2.95%	6.77%	0.0036%
Vensky Analytics Inc	VRSK	\$ 20,640.07	0.08%	0.00%	12.91%	12.91%	0.0108%
VenSign Inc	VRSN	\$ 20,998.00	0.09%	0.00%	8.80%	8.80%	0.0075%
Vertex Pharmaceuticals Inc	VRTX	\$ 48,081.39	0.20%	0.00%	49.41%	49.41%	0.0966%
Ventas Inc	VTR	\$ 23,256.97	0.09%	4.92%	2.29%	7.27%	0.0069%
Venzon Communications Inc	VZ	\$ 227,923.65	0.93%	4.42%	2.30%	6.77%	0.0627%
Waters Corp	WAT	\$ 17,776.76	0.07%	0.00%	11.10%	11.10%	0.0080%
Walgreens Boots Alliance Inc	WBA	\$ 69,277.15	0.28%	2.43%	9.77%	12.32%	0.0347%
WellCare Health Plans Inc	WCG	\$ 13,956.03	0.06%	0.00%	17.08%	17.08%	0.0097%
Western Digital Corp	WDC	\$ 13,859.05	0.06%	4.20%	2.72%	6.97%	0.0039%
WEC Energy Group Inc	WEC	\$ 23,497.01	0.10%	3.15%	4.89%	8.12%	0.0078%
Welltower Inc	WELL	\$ 29,153.76	0.12%	4.56%	6.69%	11.40%	0.0135%
Wells Fargo & Co	WFC	\$ 225,491.59	0.92%	3.70%	11.26%	15.16%	0.1390%
Whirlpool Corp	WHR	\$ 8,859.07	0.04%	3.41%	5.75%	9.26%	0.0033%
Willis Towers Watson PLC	WLTW	\$ 22,032.38	0.09%	1.52%	10.00%	11.59%	0.0104%
Waste Management Inc	WM	\$ 41,979.60	0.17%	2.03%	9.73%	11.86%	0.0202%
Williams Cos Inc/The	WMB	\$ 33,012.08	0.13%	5.60%	3.90%	9.61%	0.0129%
Walmart Inc	WMT	\$ 290,496.95	1.18%	2.08%	5.01%	7.14%	0.0843%
Westrock Co	WRK	\$ 9,972.31	0.04%	4.64%	4.73%	9.47%	0.0038%
Western Union Co/The	WU	\$ 7,853.36	0.03%	4.37%	3.64%	8.09%	0.0026%
Weyerhaeuser Co	WY	\$ 19,062.83	0.08%	5.30%	8.70%	14.23%	0.0110%
Wynn Resorts Ltd	WYNN	\$ 13,539.03	0.06%	2.43%	31.10%	33.91%	0.0187%
Cimarex Energy Co	XEC	\$ 7,266.07	0.03%	0.76%	63.18%	64.19%	0.0190%
Xcel Energy Inc	XEL	\$ 27,980.03	0.11%	3.00%	5.98%	9.07%	0.0103%
Xilinx Inc	XLNX	\$ 30,204.98	0.12%	1.21%	9.33%	10.59%	0.0130%
Exxon Mobil Corp	XOM	\$ 329,009.16	1.34%	4.35%	11.51%	16.11%	0.2155%
DENTSPLY SIRONA Inc	XRAY	\$ 9,698.63	0.04%	0.80%	6.90%	7.72%	0.0030%
Xerox Corp	XRK	\$ 6,994.32	0.03%	3.37%	-0.10%	3.26%	0.0009%
Xylem Inc/NY	XYL	\$ 13,286.41	0.05%	1.30%	13.90%	15.29%	0.0083%
Yum! Brands Inc	YUM	\$ 28,800.72	0.12%	1.75%	12.97%	14.83%	0.0174%
Zimmer Biomet Holdings Inc	ZBH	\$ 25,221.67	0.10%	0.81%	4.74%	5.58%	0.0057%
Zions Bancorp NA	ZION	\$ 9,396.33	0.04%	2.63%	6.78%	9.49%	0.0036%
Zoetis Inc	ZTS	\$ 45,660.48	0.19%	0.62%	16.50%	17.17%	0.0319%
Total Market Capitalization		\$ 24,595,841					13.75%

Notes

- [1] Equals sum of Col. [9]
[2] Source: Bloomberg Professional
[3] Equals [1] - [2]
[4] Source: Bloomberg Professional
[5] Equals weight in S&P 500 based on market capitalization
[6] Source: Bloomberg Professional
[7] Source: Bloomberg Professional
[8] Equals ([6] x (1 + (0.5 x [7]))) + [7]
[9] Equals Col. [5] x Col. [8]

Ex-Ante Market Risk Premium
Market DCF Method Based - Value Line

[1]	[2]	[3]
S&P 500	Current 30-Year	
Est Required	Treasury (30-day	Implied Market
Market Return	average)	Risk Premium
17.14%	3.03%	14.10%

		[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est	DCF Result	Weighted DCF Result
Agilent Technologies Inc	A	\$ 23,954.94	0.11%	0.88%	9.50%	10.42%	0.0115%
American Airlines Group Inc	AAL	\$ 16,658.42	0.08%	1.11%	-0.50%	0.61%	0.0005%
Advance Auto Parts Inc	AAP	\$ 11,891.20	0.05%	0.15%	13.00%	13.16%	0.0072%
Apple Inc	AAPL	\$ 808,512.60	3.72%	1.88%	17.50%	19.54%	0.7273%
AbbVie Inc	ABBV	\$ 119,084.30	0.55%	5.41%	14.50%	20.30%	0.1113%
AmensourceBergen Corp	ABC	\$ 18,105.95	0.08%	1.87%	8.00%	9.94%	0.0083%
ABIOMED Inc	ABMD	\$ 15,392.26	0.07%	0.00%	24.50%	24.50%	0.0174%
Abbott Laboratories	ABT	\$ 127,755.70	0.59%	1.76%	10.00%	11.85%	0.0697%
Accenture PLC	ACN	\$ 99,008.87	0.46%	1.97%	9.50%	11.56%	0.0527%
Adobe Inc	ADBE	\$ 123,739.60	0.57%	0.00%	22.00%	22.00%	0.1253%
Analog Devices Inc	ADI	\$ 37,249.20	0.17%	1.91%	10.50%	12.51%	0.0214%
Archer-Daniels-Midland Co	ADM	\$ 23,184.00	0.11%	3.38%	9.50%	13.04%	0.0139%
Automatic Data Processing Inc	ADP	\$ 63,545.61	0.29%	2.31%	15.00%	17.48%	0.0511%
Alliance Data Systems Corp	ADS	\$ 8,855.57	0.04%	1.41%	14.50%	16.01%	0.0065%
Autodesk Inc	ADSK	\$ 32,974.00	N/A	0.00%	N/A	N/A	N/A
Ameren Corp	AEE	\$ 17,025.62	0.08%	2.77%	7.50%	10.37%	0.0081%
American Electric Power Co Inc	AEP	\$ 39,176.55	0.18%	3.42%	4.50%	8.00%	0.0144%
AES Corp/VA	AES	\$ 11,331.90	N/A	3.21%	N/A	N/A	N/A
Aflac Inc	AFL	\$ 36,972.82	0.17%	2.31%	8.50%	10.91%	0.0186%
Allergan PLC	AGN	\$ 44,658.77	0.21%	2.24%	4.50%	6.79%	0.0140%
American International Group Inc	AIG	\$ 37,889.48	0.17%	2.99%	52.00%	55.77%	0.0973%
Apartment Investment & Management Co	AIV	\$ 8,119.78	0.04%	3.09%	5.50%	8.67%	0.0032%
Assurant Inc	AIZ	\$ 6,069.81	0.03%	2.47%	7.50%	10.06%	0.0028%
Arthur J Gallagher & Co	AJG	\$ 14,326.76	0.07%	2.21%	17.00%	19.40%	0.0128%
Akamai Technologies Inc	AKAM	\$ 11,313.17	0.05%	0.00%	17.50%	17.50%	0.0091%
Albemarle Corp	ALB	\$ 8,562.92	0.04%	1.66%	8.50%	10.23%	0.0040%
Align Technology Inc	ALGN	\$ 19,481.41	0.09%	0.00%	28.50%	28.50%	0.0256%
Alaska Air Group Inc	ALK	\$ 8,046.84	0.04%	2.15%	1.50%	3.67%	0.0014%
Allstate Corp/The	ALL	\$ 31,853.85	0.15%	1.99%	12.00%	14.11%	0.0207%
Allegion PLC	ALLE	\$ 8,625.02	0.04%	1.19%	10.50%	11.75%	0.0047%
Alexion Pharmaceuticals Inc	ALXN	\$ 26,502.05	0.12%	0.00%	24.50%	24.50%	0.0299%
Applied Materials Inc	AMAT	\$ 38,602.64	0.18%	2.00%	19.00%	21.19%	0.0376%
Advanced Micro Devices Inc	AMD	\$ 22,647.33	N/A	0.00%	N/A	N/A	N/A
AMETEK Inc	AME	\$ 17,434.23	0.08%	0.75%	10.50%	11.29%	0.0091%
Affiliated Managers Group Inc	AMG	\$ 6,353.10	0.03%	1.47%	6.50%	8.02%	0.0023%
Amgen Inc	AMGN	\$ 117,999.30	0.54%	3.15%	8.50%	11.78%	0.0640%
Ameriprise Financial Inc	AMP	\$ 17,508.26	0.08%	2.88%	16.00%	19.11%	0.0154%
American Tower Corp	AMT	\$ 75,817.71	0.35%	2.00%	11.50%	13.62%	0.0475%
Amazon.com Inc	AMZN	\$ 789,427.00	3.63%	0.00%	57.00%	57.00%	2.0711%
Ansta Networks Inc	ANET	\$ 16,607.57	0.08%	0.00%	19.00%	19.00%	0.0145%
ANSYS Inc	ANSS	\$ 14,245.93	0.07%	0.00%	13.00%	13.00%	0.0085%
Anthem Inc	ANTM	\$ 79,764.00	0.37%	1.04%	18.00%	19.13%	0.0702%
Aon PLC	AON	\$ 40,251.46	0.19%	0.96%	9.50%	10.51%	0.0195%
AQ Smith Corp	AOS	\$ 8,380.28	0.04%	1.79%	12.50%	14.40%	0.0056%
Apache Corp	APA	\$ 11,649.27	N/A	3.28%	N/A	N/A	N/A
Anadarko Petroleum Corp	APC	\$ 21,040.14	N/A	2.82%	N/A	N/A	N/A
Air Products & Chemicals Inc	APD	\$ 36,507.07	0.17%	2.79%	9.50%	12.42%	0.0209%
Amphenol Corp	APH	\$ 27,074.82	0.12%	1.02%	10.00%	11.07%	0.0138%
Aptiv PLC	APTIV	\$ 20,129.47	0.09%	1.16%	10.00%	11.22%	0.0104%
Alexandria Real Estate Equities Inc	ARE	\$ 13,243.33	N/A	2.92%	N/A	N/A	N/A
Arconic Inc	ARNC	\$ 8,543.72	N/A	1.36%	N/A	N/A	N/A
Atmos Energy Corp	ATO	\$ 10,796.82	0.05%	2.20%	7.50%	9.78%	0.0049%
Activision Blizzard Inc	ATVI	\$ 33,541.00	0.15%	0.86%	14.50%	15.42%	0.0238%
AvalonBay Communities Inc	AVB	\$ 26,966.99	0.12%	3.12%	5.50%	8.71%	0.0108%
Broadcom Inc	AVGO	\$ 111,134.20	0.51%	3.94%	47.50%	52.38%	0.2679%
Avery Dennison Corp	AVY	\$ 8,964.95	0.04%	2.14%	11.50%	13.76%	0.0057%
American Water Works Co Inc	AWK	\$ 17,494.33	0.08%	2.00%	10.00%	12.10%	0.0097%
American Express Co	AXP	\$ 89,149.06	0.41%	1.58%	9.00%	10.65%	0.0437%
AutoZone Inc	AZO	\$ 22,159.06	0.10%	0.00%	12.50%	12.50%	0.0127%
Boeing Co/The	BA	\$ 230,541.30	1.06%	2.03%	18.00%	20.21%	0.2145%
Bank of America Corp	BAC	\$ 278,397.10	1.28%	2.13%	13.00%	15.27%	0.1956%
Baxter International Inc	BAX	\$ 37,921.61	0.17%	1.07%	12.50%	13.64%	0.0238%
BB&T Corp	BBT	\$ 38,885.48	0.18%	3.21%	10.00%	13.37%	0.0239%
Best Buy Co Inc	BBY	\$ 16,009.92	0.07%	3.74%	12.00%	15.96%	0.0118%
Becton Dickinson and Co	BDX	\$ 64,792.19	0.30%	1.29%	10.00%	11.35%	0.0339%
Franklin Resources Inc	BEN	\$ 15,523.48	0.07%	3.53%	9.00%	12.69%	0.0091%
Brown-Forman Corp	BF/B	\$ 23,025.45	0.11%	1.37%	15.50%	16.98%	0.0180%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est	[8] DCF Result	[9] Weighted DCF Result
Brighthouse Financial Inc	BHF	N/A	N/A	0.00%	N/A	N/A	N/A
Baker Hughes a GE Co	BHGE	\$ 10,048.68	N/A	2.95%	N/A	N/A	N/A
Biogen Inc	BIIB	\$ 62,203.84	0.29%	0.00%	6.50%	6.50%	0.0186%
Bank of New York Mellon Corp/The	BK	\$ 51,525.17	0.24%	2.15%	9.00%	11.25%	0.0267%
Booking Holdings Inc	BKNG	\$ 87,519.80	0.40%	0.00%	14.00%	14.00%	0.0564%
BlackRock Inc	BLK	\$ 65,919.36	0.30%	3.18%	9.00%	12.32%	0.0374%
Ball Corp	BLL	\$ 18,144.72	0.08%	0.75%	22.00%	22.83%	0.0191%
Bristol-Myers Squibb Co	BMJ	\$ 81,691.56	0.38%	3.28%	13.50%	17.00%	0.0639%
Broadridge Financial Solutions Inc	BR	\$ 11,316.75	0.05%	2.00%	12.00%	14.12%	0.0074%
Berkshire Hathaway Inc	BRK/B	\$ -	N/A	0.00%	N/A	N/A	N/A
Boston Scientific Corp	BSX	\$ 53,756.94	0.25%	0.00%	17.00%	17.00%	0.0421%
BorgWarner Inc	BWA	\$ 8,168.47	0.04%	1.73%	8.50%	10.30%	0.0039%
Boston Properties Inc	BXP	\$ 20,465.04	0.09%	2.94%	3.50%	6.49%	0.0051%
Citigroup Inc	C	\$ 153,390.60	0.71%	3.15%	8.50%	11.78%	0.0832%
Conagra Brands Inc	CAG	\$ 10,790.97	0.05%	3.83%	4.50%	8.42%	0.0042%
Cardinal Health Inc	CAH	\$ 16,166.50	0.07%	3.59%	10.00%	13.77%	0.0102%
Caterpillar Inc	CAT	\$ 75,993.98	0.35%	2.67%	17.00%	19.90%	0.0696%
Chubb Ltd	CB	\$ 60,229.01	0.28%	2.24%	9.50%	11.85%	0.0328%
Cboe Global Markets Inc	CBOE	\$ 10,604.47	0.05%	1.31%	17.00%	18.42%	0.0090%
CBRE Group Inc	CBRE	\$ 15,735.02	0.07%	0.00%	11.50%	11.50%	0.0083%
CBS Corp	CBS	\$ 18,431.25	0.08%	1.47%	10.50%	12.05%	0.0102%
Crown Castle International Corp	CCI	\$ 49,086.20	0.23%	3.89%	12.00%	16.12%	0.0364%
Carnival Corp	CCL	\$ 39,872.00	0.18%	3.51%	13.50%	17.25%	0.0317%
Cadence Design Systems Inc	CDNS	\$ 14,270.74	0.07%	0.00%	12.50%	12.50%	0.0082%
Celanese Corp	CE	\$ 13,010.62	0.06%	2.50%	10.00%	12.63%	0.0076%
Celgene Corp	CELG	\$ 61,132.79	0.28%	0.00%	14.50%	14.50%	0.0408%
Cerner Corp	CERN	\$ 18,316.31	0.08%	0.00%	9.00%	9.00%	0.0076%
CF Industries Holdings Inc	CF	\$ 9,577.39	0.04%	3.15%	48.50%	52.41%	0.0231%
Citizens Financial Group Inc	CFG	\$ 16,869.23	0.08%	3.60%	12.50%	16.33%	0.0127%
Church & Dwight Co Inc	CHD	\$ 15,395.93	0.07%	1.45%	10.00%	11.52%	0.0082%
CH Robinson Worldwide Inc	CHRW	\$ 12,469.68	0.06%	2.21%	10.00%	12.32%	0.0071%
Charter Communications Inc	CHTR	\$ 82,484.66	0.38%	0.00%	19.50%	19.50%	0.0740%
Cigna Corp	CI	\$ 45,287.58	0.21%	0.02%	13.00%	13.02%	0.0271%
Cincinnati Financial Corp	CINF	\$ 13,715.61	0.06%	2.66%	7.00%	9.75%	0.0062%
Colgate-Palmolive Co	CL	\$ 56,419.17	0.26%	2.58%	10.50%	13.22%	0.0343%
Clorox Co/The	CLX	\$ 19,622.11	0.09%	2.51%	7.50%	10.10%	0.0091%
Comerica Inc	CMA	\$ 13,847.78	0.06%	3.21%	18.00%	21.50%	0.0137%
Comcast Group	CMCSA	\$ 171,425.30	0.79%	2.23%	13.00%	15.37%	0.1213%
CME Group Inc	CME	\$ 60,233.92	0.28%	1.69%	4.50%	6.23%	0.0173%
Chipotle Mexican Grill Inc	CMG	\$ 16,280.00	0.07%	0.00%	18.50%	18.50%	0.0139%
Cummins Inc	CMI	\$ 24,014.01	0.11%	3.05%	8.00%	11.17%	0.0123%
CMS Energy Corp	CMS	\$ 14,901.58	0.07%	2.91%	7.00%	10.01%	0.0069%
Centene Corp	CNC	\$ 26,248.35	0.12%	0.00%	17.00%	17.00%	0.0205%
CenterPoint Energy Inc	CNP	\$ 13,296.21	0.06%	3.73%	3.50%	7.30%	0.0045%
Capital One Financial Corp	COF	\$ 37,433.11	0.17%	2.03%	10.00%	12.13%	0.0209%
Cabot Oil & Gas Corp	COG	\$ 10,294.69	N/A	1.18%	N/A	N/A	N/A
Cooper Cos Inc/The	COO	\$ 13,395.46	0.06%	0.02%	14.50%	14.52%	0.0090%
ConocoPhillips	COP	\$ 77,685.80	N/A	1.81%	N/A	N/A	N/A
Costco Wholesale Corp	COST	\$ 92,096.13	0.42%	1.16%	8.50%	9.71%	0.0412%
Coty Inc	COTY	\$ 5,300.65	0.02%	7.08%	11.00%	18.47%	0.0045%
Campbell Soup Co	CPB	\$ 11,046.60	N/A	4.09%	N/A	N/A	N/A
Capri Holdings Ltd	CPRI	\$ 7,078.07	0.03%	0.00%	7.50%	7.50%	0.0024%
Copart Inc	CPRT	\$ 12,002.27	0.06%	0.00%	13.00%	13.00%	0.0072%
salesforce.com Inc	CRM	\$ 118,521.40	0.55%	0.00%	65.00%	65.00%	0.3546%
Cisco Systems Inc	CSCO	\$ 210,943.90	0.97%	3.02%	8.00%	11.14%	0.1082%
CSX Corp	CSX	\$ 57,597.89	0.27%	1.41%	18.50%	20.04%	0.0531%
Cintas Corp	CTAS	\$ 20,157.53	0.09%	1.07%	15.00%	16.15%	0.0150%
CenturyLink Inc	CTL	\$ 15,257.69	0.07%	15.30%	2.50%	17.99%	0.0126%
Cognizant Technology Solutions Corp	CTSH	\$ 42,334.20	0.19%	1.10%	10.00%	11.16%	0.0217%
Citrix Systems Inc	CTXS	\$ 14,155.35	0.07%	1.33%	7.50%	8.88%	0.0058%
CVS Health Corp	CVS	\$ 66,999.25	0.31%	3.04%	8.50%	11.67%	0.0360%
Chevron Corp	CVX	\$ 225,910.80	1.04%	4.03%	31.00%	35.65%	0.3707%
Concho Resources Inc	CXO	\$ 22,577.06	0.10%	0.00%	34.50%	34.50%	0.0359%
Dominion Energy Inc	D	\$ 47,598.85	0.22%	5.05%	6.50%	11.71%	0.0257%
Delta Air Lines Inc	DAL	\$ 34,562.05	0.16%	2.78%	10.50%	13.43%	0.0214%
Deere & Co	DE	\$ 51,526.02	0.24%	1.88%	14.00%	16.01%	0.0380%
Discover Financial Services	DFS	\$ 23,289.45	0.11%	2.32%	8.00%	10.41%	0.0112%
Dollar General Corp	DG	\$ 30,854.69	0.14%	0.99%	13.00%	14.05%	0.0200%
Quest Diagnostics Inc	DGX	\$ 12,204.64	0.06%	2.36%	9.50%	11.97%	0.0067%
DR Horton Inc	DHI	\$ 14,351.15	0.07%	1.56%	8.00%	9.62%	0.0064%
Danaher Corp	DHR	\$ 76,099.87	0.35%	0.59%	10.50%	11.12%	0.0390%
Walt Disney Co/The	DIS	\$ 166,425.00	0.77%	1.59%	7.00%	8.65%	0.0662%
Discovery Inc	DISCA	\$ 14,993.04	0.07%	0.00%	17.00%	17.00%	0.0117%
DISH Network Corp	DISH	\$ 14,530.57	0.07%	0.00%	1.00%	1.00%	0.0007%
Digital Realty Trust Inc	DLR	\$ 22,611.97	0.10%	3.91%	6.50%	10.54%	0.0110%
Dollar Tree Inc	DLTR	\$ 23,390.07	0.11%	0.00%	17.50%	17.50%	0.0188%
Dover Corp	DOV	\$ 12,718.39	0.06%	2.21%	13.00%	15.35%	0.0090%
Duke Realty Corp	DRE	\$ 10,705.08	0.05%	2.93%	7.00%	10.03%	0.0049%
Darden Restaurants Inc	DRI	\$ 13,535.35	0.06%	2.83%	12.50%	15.51%	0.0097%
DTE Energy Co	DTE	\$ 21,521.73	0.10%	3.25%	7.50%	10.87%	0.0108%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est	[8] DCF Result	[9] Weighted DCF Result
Duke Energy Corp	DUK	\$ 63,799.24	0.29%	4.27%	5.50%	9.89%	0.0290%
DaVita Inc	DVA	\$ 9,466.07	0.04%	0.00%	10.00%	10.00%	0.0044%
Devon Energy Corp	DVN	\$ 11,969.43	0.06%	1.27%	23.50%	24.92%	0.0137%
DowDuPont Inc	DWDP	\$ 119,703.10	N/A	3.22%	N/A	N/A	N/A
DXC Technology Co	DXC	\$ 18,245.73	0.08%	1.18%	14.00%	15.26%	0.0128%
Electronic Arts Inc	EA	\$ 25,314.10	0.12%	0.00%	11.50%	11.50%	0.0134%
eBay Inc	EBAY	\$ 33,945.75	0.16%	1.59%	14.50%	16.21%	0.0253%
Ecolab Inc	ECL	\$ 45,818.14	0.21%	1.16%	9.50%	10.72%	0.0226%
Consolidated Edison Inc	ED	\$ 24,324.94	0.11%	3.83%	3.00%	6.89%	0.0077%
Equifax Inc	EFX	\$ 12,855.96	0.06%	1.46%	7.50%	9.01%	0.0053%
Edison International	EIX	\$ 18,796.04	0.09%	4.26%	4.50%	8.86%	0.0077%
Estee Lauder Cos Inc/The	EL	\$ 55,114.89	0.25%	1.13%	12.50%	13.70%	0.0348%
Eastman Chemical Co	EMN	\$ 11,035.49	0.05%	3.15%	9.50%	12.80%	0.0065%
Emerson Electric Co	EMR	\$ 40,852.17	0.19%	2.97%	14.00%	17.18%	0.0323%
EOG Resources Inc	EOG	\$ 53,918.49	N/A	0.99%	N/A	N/A	N/A
Equinix Inc	EQIX	\$ 31,180.47	0.14%	2.67%	25.50%	28.51%	0.0409%
Equity Residential	EQR	\$ 27,064.04	0.12%	2.94%	-15.00%	-12.28%	-0.0153%
Eversource Energy	ES	\$ 22,188.36	0.10%	3.05%	5.50%	8.64%	0.0088%
Essex Property Trust Inc	ESS	\$ 18,327.35	0.08%	2.75%	0.50%	3.26%	0.0027%
E*TRADE Financial Corp	ETFC	\$ 11,975.52	0.06%	1.20%	26.00%	27.36%	0.0151%
Eaton Corp PLC	ETN	\$ 33,094.43	0.15%	3.46%	10.00%	13.63%	0.0208%
Entergy Corp	ETR	\$ 16,350.70	0.08%	4.06%	1.00%	5.08%	0.0038%
Evergy Inc	EVERG	\$ -	N/A	3.37%	N/A	N/A	N/A
Edwards Lifesciences Corp	EW	\$ 35,599.27	0.16%	0.16%	15.00%	15.00%	0.0246%
Exelon Corp	EXC	\$ 46,541.71	0.21%	3.01%	7.50%	10.62%	0.0228%
Expeditors International of Washington I	EXPD	\$ 12,321.07	0.06%	1.26%	9.50%	10.82%	0.0061%
Expedia Group Inc	EXPE	\$ 19,080.76	0.09%	1.00%	20.00%	21.10%	0.0185%
Extra Space Storage Inc	EXR	\$ 12,550.30	0.06%	3.57%	5.00%	8.66%	0.0050%
Ford Motor Co	F	\$ 33,056.37	0.15%	7.22%	0.50%	7.74%	0.0118%
Diamondback Energy Inc	FANG	\$ 9,666.11	N/A	0.77%	N/A	N/A	N/A
Fastenal Co	FAST	\$ 17,438.71	0.08%	2.63%	11.50%	14.28%	0.0115%
Facebook Inc	FB	\$ 478,009.80	2.20%	0.00%	26.00%	26.00%	0.5720%
Fortune Brands Home & Security Inc	FBHS	\$ 6,327.87	0.03%	1.97%	13.50%	15.60%	0.0045%
Freight-McMorgan Inc	FCX	\$ 17,185.14	N/A	2.02%	N/A	N/A	N/A
FedEx Corp	FDX	\$ 47,345.55	0.22%	1.43%	9.50%	11.00%	0.0240%
FirstEnergy Corp	FE	\$ 20,104.90	0.09%	3.92%	6.50%	10.55%	0.0098%
F5 Networks Inc	FFIV	\$ 9,591.86	0.04%	0.00%	10.50%	10.50%	0.0046%
Fidelity National Information Services I	FIS	\$ 35,643.76	0.16%	1.29%	15.50%	16.89%	0.0277%
Fiserv Inc	FISV	\$ 33,688.01	0.16%	0.00%	13.50%	13.50%	0.0209%
Fifth Third Bancorp	FITB	\$ 17,557.40	0.08%	3.29%	7.00%	10.41%	0.0084%
Foot Locker Inc	FL	\$ 6,414.53	0.03%	2.44%	8.00%	10.54%	0.0031%
FLIR Systems Inc	FLIR	\$ 6,861.27	0.03%	1.37%	13.50%	14.96%	0.0047%
Fluor Corp	FLR	\$ 4,892.44	0.02%	2.42%	8.50%	11.02%	0.0025%
Flowserve Corp	FLS	\$ 5,713.00	0.03%	1.74%	7.50%	9.31%	0.0024%
FleetCor Technologies Inc	FLT	\$ 19,331.47	0.09%	0.00%	14.50%	14.50%	0.0129%
FMC Corp	FMC	\$ 11,342.24	0.05%	1.90%	22.50%	24.61%	0.0128%
Twenty-First Century Fox Inc	FOXA	\$ 91,917.98	0.42%	0.73%	12.50%	13.28%	0.0562%
First Republic Bank/CA	FRC	\$ 16,584.84	0.08%	0.72%	11.50%	12.26%	0.0094%
Federal Realty Investment Trust	FRT	\$ 9,910.41	0.05%	3.02%	3.50%	6.57%	0.0030%
TechnipFMC PLC	FTI	N/A	N/A	0.00%	N/A	N/A	N/A
Fortinet Inc	FTNT	\$ 13,515.01	0.06%	0.00%	39.50%	39.50%	0.0246%
Fortive Corp	FTV	\$ 26,032.12	N/A	0.38%	N/A	N/A	N/A
General Dynamics Corp	GD	\$ 51,408.50	0.24%	2.14%	9.00%	11.24%	0.0266%
General Electric Co	GE	\$ 87,503.03	N/A	0.40%	N/A	N/A	N/A
Gilead Sciences Inc	GILD	\$ 87,060.32	0.40%	3.75%	-6.50%	-2.87%	-0.0115%
General Mills Inc	GIS	\$ 26,171.26	0.12%	4.51%	3.00%	7.58%	0.0091%
Corning Inc	GLW	\$ 26,581.25	0.12%	2.41%	15.50%	18.10%	0.0221%
General Motors Co	GM	\$ 54,110.00	0.25%	4.04%	3.00%	7.10%	0.0177%
Alphabet Inc	GOOGL	N/A	N/A	0.00%	N/A	N/A	N/A
Genuine Parts Co	GPC	\$ 15,097.10	0.07%	2.80%	9.00%	11.93%	0.0083%
Global Payments Inc	GP	\$ 17,875.02	0.08%	0.04%	20.00%	20.04%	0.0165%
Gap Inc/The	GPS	\$ 9,523.26	0.04%	3.89%	7.00%	11.03%	0.0048%
Garmin Ltd	GRMN	\$ 13,137.33	0.06%	3.05%	10.50%	13.71%	0.0083%
Goldman Sachs Group Inc/The	GS	\$ 71,964.72	0.33%	1.66%	9.50%	11.24%	0.0372%
Goodyear Tire & Rubber Co/The	GT	\$ 4,788.15	0.02%	3.21%	12.50%	15.91%	0.0035%
WW Grainger Inc	GWW	\$ 17,068.34	0.08%	1.80%	9.50%	11.39%	0.0089%
Halliburton Co	HAL	\$ 26,718.00	N/A	2.36%	N/A	N/A	N/A
Hasbro Inc	HAS	\$ 11,436.12	0.05%	2.79%	8.00%	10.90%	0.0057%
Huntington Bancshares Inc/OH	HBAN	\$ 14,818.94	0.07%	4.01%	13.00%	17.27%	0.0118%
Hanesbrands Inc	HBI	\$ 6,747.97	0.03%	3.21%	4.00%	7.27%	0.0023%
HCA Healthcare Inc	HCA	\$ 48,525.99	0.22%	1.14%	15.00%	16.23%	0.0362%
HCP Inc	HCP	\$ 14,726.21	0.07%	4.85%	35.50%	41.21%	0.0279%
Home Depot Inc/The	HD	\$ 208,183.20	0.96%	2.50%	12.50%	15.16%	0.1452%
Hess Corp	HES	\$ 15,523.66	N/A	1.91%	N/A	N/A	N/A
HollyFrontier Corp	HFC	\$ 9,553.27	0.04%	2.48%	25.00%	27.79%	0.0122%
Hartford Financial Services Group Inc/Th	HIG	\$ 17,288.18	0.08%	2.49%	13.00%	15.65%	0.0125%
Huntington Ingalls Industries Inc	HII	\$ 9,040.32	0.04%	1.64%	12.50%	14.24%	0.0059%
Hilton Worldwide Holdings Inc	HLT	\$ 22,177.12	0.10%	0.80%	9.00%	9.84%	0.0100%
Harley-Davidson Inc	HOG	\$ 5,796.86	0.03%	4.16%	9.00%	13.35%	0.0036%
Hologic Inc	HOLX	\$ 11,615.23	0.05%	0.00%	18.50%	18.50%	0.0099%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est	DCF Result	Weighted DCF Result
Honeywell International Inc	HON	\$ 109,673.70	0.50%	2.21%	9.00%	11.31%	0.0571%
Helmreich & Payne Inc	HP	\$ 6,099.33	0.03%	5.09%	56.50%	63.03%	0.0177%
Hewlett Packard Enterprise Co	HPE	\$ 22,554.55	0.10%	2.84%	7.50%	10.45%	0.0108%
HP Inc	HPQ	\$ 35,661.60	0.16%	2.80%	9.50%	12.43%	0.0204%
H&R Block Inc	HRB	\$ 4,928.54	0.02%	4.30%	8.50%	12.98%	0.0029%
Hormel Foods Corp	HRL	\$ 22,690.06	0.10%	1.98%	9.00%	11.07%	0.0116%
Harsco Corp	HRS	\$ 18,541.16	0.09%	1.74%	13.50%	15.36%	0.0131%
Henry Schein Inc	HSIC	\$ 12,147.79	0.06%	0.00%	8.50%	8.50%	0.0048%
Host Hotels & Resorts Inc	HST	\$ 13,444.23	N/A	4.56%	N/A	N/A	N/A
Hershey Co/The	HSY	\$ 22,431.76	0.10%	2.70%	6.50%	9.29%	0.0096%
Humana Inc	HUM	\$ 41,700.43	0.19%	0.72%	14.00%	14.77%	0.0283%
International Business Machines Corp	IBM	\$ 121,042.30	N/A	4.90%	N/A	N/A	N/A
Intercontinental Exchange Inc	ICE	\$ 43,139.05	0.20%	1.27%	12.50%	13.85%	0.0275%
IDEXX Laboratories Inc	IDXX	\$ 17,898.58	0.08%	0.00%	15.00%	15.00%	0.0124%
International Flavors & Fragrances Inc	IFF	\$ 13,049.50	0.06%	2.08%	9.50%	11.69%	0.0070%
Ilumina Inc	ILMN	\$ 40,648.44	0.19%	0.00%	15.50%	15.50%	0.0290%
Incyte Corp	INCY	\$ 16,984.15	N/A	0.00%	N/A	N/A	N/A
IHS Markit Ltd	INFO	\$ 20,746.11	0.10%	0.00%	20.00%	20.00%	0.0191%
Intel Corp	INTC	\$ 224,685.70	1.03%	2.56%	12.50%	15.22%	0.1574%
Intuit Inc	INTU	\$ 57,357.40	0.26%	0.85%	14.50%	15.41%	0.0407%
International Paper Co	IP	\$ 18,755.55	0.09%	4.32%	15.50%	20.15%	0.0174%
Interpublic Group of Cos Inc/The	IPG	\$ 8,561.18	0.04%	3.84%	11.50%	15.56%	0.0061%
IPG Photonics Corp	IPGP	\$ 7,435.23	0.03%	0.00%	10.50%	10.50%	0.0036%
IQVIA Holdings Inc	IQV	\$ 26,228.19	0.12%	0.00%	14.50%	14.50%	0.0175%
Ingersoll-Rand PLC	IR	\$ 24,865.30	0.11%	2.09%	13.50%	15.73%	0.0180%
Iron Mountain Inc	IRM	\$ 10,458.52	0.05%	6.68%	8.50%	15.46%	0.0074%
Intuitive Surgical Inc	ISRG	\$ 58,168.91	0.27%	0.00%	15.00%	15.00%	0.0402%
Gartner Inc	IT	\$ 12,647.76	0.06%	0.00%	15.00%	15.00%	0.0087%
Illinois Tool Works Inc	ITW	\$ 44,799.63	0.21%	2.96%	11.00%	14.12%	0.0291%
Invesco Ltd	IVZ	\$ 7,555.58	0.03%	6.53%	4.00%	10.66%	0.0037%
JB Hunt Transport Services Inc	JBHT	\$ 11,885.99	0.05%	0.96%	13.50%	14.52%	0.0079%
Johnson Controls International plc	JCI	\$ 30,931.84	0.14%	3.07%	6.00%	9.16%	0.0130%
Jacobs Engineering Group Inc	JEC	\$ 9,158.29	0.04%	1.04%	13.00%	14.11%	0.0059%
Jefferies Financial Group Inc	JEF	\$ 6,651.50	0.03%	2.49%	20.50%	23.25%	0.0071%
Jack Henry & Associates Inc	JKHY	\$ 10,185.41	0.05%	1.12%	11.50%	12.68%	0.0059%
Johnson & Johnson	JNJ	\$ 354,310.60	1.63%	2.84%	10.50%	13.49%	0.2200%
Juniper Networks Inc	JNPR	\$ 8,962.25	0.04%	2.93%	4.50%	7.50%	0.0031%
JPMorgan Chase & Co	JPM	\$ 340,455.60	1.57%	3.17%	9.50%	12.82%	0.2009%
Nordstrom Inc	JWN	\$ 7,838.65	0.04%	3.19%	7.00%	10.30%	0.0037%
Kellogg Co	K	\$ 19,376.48	0.09%	4.05%	5.50%	9.66%	0.0086%
KeyCorp	KEY	\$ 17,655.28	0.08%	3.98%	13.00%	17.24%	0.0140%
Keysight Technologies Inc	KEYS	\$ 14,290.99	0.07%	0.00%	16.00%	16.00%	0.0105%
Kraft Heinz Co/The	KHC	\$ 57,573.38	0.26%	5.29%	9.50%	15.04%	0.0399%
Kimco Realty Corp	KIM	\$ 7,499.88	0.03%	6.47%	-0.50%	5.95%	0.0021%
KLA-Tencor Corp	KLAC	\$ 15,965.87	0.07%	2.84%	10.50%	13.49%	0.0099%
Kimberly-Clark Corp	KMB	\$ 39,256.68	0.18%	3.63%	10.50%	14.32%	0.0259%
Kinder Morgan Inc/DE	KMI	\$ 39,610.72	0.18%	4.45%	57.00%	62.72%	0.1143%
CarMax Inc	KMX	\$ 10,327.71	0.05%	0.00%	11.50%	11.50%	0.0055%
Coca-Cola Co/The	KO	\$ 210,331.50	0.97%	3.36%	6.50%	9.97%	0.0965%
Kroger Co/The	KR	\$ 22,487.64	0.10%	2.20%	5.00%	7.26%	0.0075%
Kohl's Corp	KSS	\$ 10,979.10	0.05%	3.94%	11.00%	15.16%	0.0077%
Kansas City Southern	KSU	\$ 10,405.51	0.05%	1.40%	12.50%	13.99%	0.0067%
Loews Corp	L	\$ 15,066.87	0.07%	0.52%	16.50%	17.06%	0.0118%
L Brands Inc	LB	\$ 7,403.00	0.03%	4.46%	-4.50%	-0.14%	0.0000%
Leggett & Platt Inc	LEG	\$ 5,709.70	0.03%	3.47%	9.00%	12.63%	0.0033%
Lennar Corp	LEN	\$ 15,255.87	0.07%	0.35%	12.00%	12.37%	0.0087%
Laboratory Corp of America Holdings	LH	\$ 14,952.44	0.07%	0.00%	9.50%	9.50%	0.0065%
Linde PLC	LIN	N/A	N/A	0.00%	N/A	N/A	N/A
LKQ Corp	LKQ	\$ 8,352.67	0.04%	0.00%	12.00%	12.00%	0.0046%
L3 Technologies Inc	LLL	\$ 15,923.96	0.07%	1.58%	11.00%	12.67%	0.0093%
Eli Lilly & Co	LLY	\$ 124,470.30	0.57%	2.20%	12.00%	14.33%	0.0821%
Lockheed Martin Corp	LMT	\$ 85,364.77	0.39%	3.07%	13.50%	16.78%	0.0659%
Lincoln National Corp	LNC	\$ 12,719.09	0.06%	2.57%	10.50%	13.20%	0.0077%
Alliant Energy Corp	LNT	\$ 10,555.78	0.05%	3.17%	6.50%	9.77%	0.0047%
Lowe's Cos Inc	LOW	\$ 78,085.28	0.36%	2.17%	13.00%	15.31%	0.0550%
Lam Research Corp	LRCX	\$ 27,054.03	0.12%	2.50%	13.00%	15.66%	0.0195%
Southwest Airlines Co	LUV	\$ 32,321.41	0.15%	1.11%	9.50%	10.66%	0.0159%
Lamb Weston Holdings Inc	LW	\$ 10,343.80	N/A	1.13%	N/A	N/A	N/A
LyondellBasell Industries NV	LYB	\$ 32,751.39	0.15%	4.73%	6.50%	11.38%	0.0172%
Macy's Inc	M	\$ 7,889.60	0.04%	5.89%	5.00%	11.04%	0.0040%
Mastercard Inc	MA	\$ 221,459.00	1.02%	0.62%	16.00%	16.67%	0.1699%
Mid-America Apartment Communities Inc	MAA	\$ 11,760.92	0.05%	3.71%	-4.50%	-0.87%	-0.0005%
Macerich Co/The	MAC	\$ 6,038.77	0.03%	7.05%	8.00%	15.33%	0.0043%
Marmott International Inc/MD	MAR	\$ 39,407.34	0.18%	1.42%	12.50%	14.01%	0.0254%
Masco Corp	MAS	\$ 10,766.11	0.05%	1.35%	14.50%	15.95%	0.0079%
Mattel Inc	MAT	\$ 4,248.13	0.02%	0.00%	22.00%	22.00%	0.0043%
McDonald's Corp	MCD	\$ 135,123.30	0.62%	2.65%	10.00%	12.78%	0.0795%
Microchip Technology Inc	MCHP	\$ 20,869.33	0.10%	1.70%	15.00%	16.83%	0.0162%
McKesson Corp	MCK	\$ 25,075.20	0.12%	1.19%	9.00%	10.24%	0.0118%
Moody's Corp	MCO	\$ 30,803.06	0.14%	1.10%	13.00%	14.17%	0.0201%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est	DCF Result	Weighted DCF Result
Mondelez International Inc	MDLZ	\$ 67,754.45	0.31%	2.32%	9.50%	11.93%	0.0372%
Medtronic PLC	MDT	\$ 119,675.30	0.55%	2.39%	7.50%	9.98%	0.0550%
MetLife Inc	MET	\$ 42,938.74	0.20%	4.00%	7.00%	11.14%	0.0220%
MGM Resorts International	MGM	\$ 15,372.98	0.07%	1.66%	31.00%	32.92%	0.0233%
Mohawk Industries Inc	MHK	\$ 9,563.98	0.04%	0.00%	4.50%	4.50%	0.0020%
McCormick & Co Inc/MD	MKC	\$ 16,438.38	0.08%	1.83%	10.00%	11.92%	0.0090%
Martin Marietta Materials Inc	MLM	\$ 11,429.89	0.05%	1.06%	13.00%	14.13%	0.0074%
Marsh & McLennan Cos Inc	MMC	\$ 45,071.41	0.21%	1.86%	9.00%	10.94%	0.0227%
3M Co	MMM	\$ 116,364.20	0.54%	2.88%	9.00%	12.01%	0.0643%
Monster Beverage Corp	MNST	\$ 31,756.03	0.15%	0.00%	15.00%	15.00%	0.0219%
Altna Group Inc	MO	\$ 91,596.91	0.42%	6.57%	10.50%	17.41%	0.0734%
Mosaic Co/The	MQS	\$ 12,103.76	0.06%	0.64%	12.00%	12.68%	0.0071%
Marathon Petroleum Corp	MPC	\$ 28,728.70	0.13%	3.33%	14.50%	18.07%	0.0239%
Merck & Co Inc	MRK	\$ 204,244.30	0.94%	2.86%	5.50%	8.44%	0.0793%
Marathon Oil Corp	MRO	\$ 12,796.26	N/A	1.44%	N/A	N/A	N/A
Morgan Stanley	MS	\$ 71,585.86	0.33%	2.89%	11.00%	14.05%	0.0463%
MSCI Inc	MSCI	\$ 15,277.86	0.07%	1.46%	22.00%	23.62%	0.0166%
Microsoft Corp	MSFT	\$ 808,789.40	3.72%	1.75%	15.00%	16.88%	0.6284%
Motorola Solutions Inc	MSI	\$ 19,394.37	0.09%	1.92%	13.00%	15.04%	0.0134%
M&T Bank Corp	MTB	\$ 23,578.97	0.11%	2.40%	13.00%	15.56%	0.0169%
Mettler-Toledo International Inc	MTD	\$ 16,232.42	0.07%	0.00%	11.00%	11.00%	0.0082%
Micron Technology Inc	MU	\$ 44,105.60	0.20%	0.00%	7.50%	7.50%	0.0152%
Maxim Integrated Products Inc	MXIM	\$ 14,995.88	0.07%	3.36%	11.50%	15.05%	0.0104%
Mylan NV	MYL	\$ 15,648.85	0.07%	0.00%	14.00%	14.00%	0.0101%
Noble Energy Inc	NBL	\$ 10,104.57	N/A	2.09%	N/A	N/A	N/A
Norwegian Cruise Line Holdings Ltd	NCLH	\$ 11,380.34	0.05%	0.00%	16.50%	16.50%	0.0086%
Nasdaq Inc	NDAQ	\$ 14,234.05	0.07%	2.03%	9.50%	11.63%	0.0076%
NextEra Energy Inc	NEE	\$ 86,675.33	0.40%	2.76%	9.00%	11.88%	0.0474%
Newmont Mining Corp	NEM	\$ 17,966.62	0.08%	1.66%	5.00%	6.70%	0.0055%
Netflix Inc	NFLX	\$ 150,322.90	0.69%	0.00%	47.00%	47.00%	0.3252%
NiSource Inc	NI	\$ 9,663.87	0.04%	3.01%	18.00%	21.28%	0.0095%
NIKE Inc	NKE	\$ 129,929.00	0.60%	1.07%	16.00%	17.16%	0.1026%
Nektar Therapeutics	NKTR	\$ 7,583.36	N/A	0.00%	N/A	N/A	N/A
Nielsen Holdings PLC	NLSN	\$ 9,069.82	0.04%	5.48%	3.00%	8.56%	0.0036%
Northrop Grumman Corp	NOC	\$ 48,388.19	0.22%	1.72%	13.00%	14.83%	0.0330%
National Oilwell Varco Inc	NOV	\$ 10,979.00	0.05%	0.70%	41.50%	42.35%	0.0214%
NRG Energy Inc	NRG	\$ 12,052.39	N/A	0.29%	N/A	N/A	N/A
Norfolk Southern Corp	NSC	\$ 46,426.99	0.21%	2.02%	13.50%	15.66%	0.0335%
NetApp Inc	NTAP	\$ 17,015.46	0.08%	2.39%	20.50%	23.13%	0.0181%
Northern Trust Corp	NTRS	\$ 19,887.91	0.09%	2.67%	11.00%	13.82%	0.0126%
Nucor Corp	NUE	\$ 18,628.78	0.09%	2.70%	20.50%	23.48%	0.0201%
NVIDIA Corp	NVDA	\$ 89,926.21	0.41%	0.43%	23.00%	23.48%	0.0972%
Newell Brands Inc	NWL	\$ 10,154.87	0.05%	4.44%	9.50%	14.15%	0.0066%
News Corp	NWSA	\$ 7,433.23	N/A	1.57%	N/A	N/A	N/A
Realty Income Corp	O	\$ 19,923.40	0.09%	3.87%	4.50%	8.46%	0.0078%
ONEOK Inc	OKE	\$ 26,795.93	0.12%	5.53%	20.50%	26.60%	0.0328%
Omnicon Group Inc	OMC	\$ 16,713.75	0.08%	3.22%	7.00%	10.33%	0.0079%
Oracle Corp	ORCL	\$ 182,399.00	0.84%	1.51%	9.50%	11.08%	0.0930%
O'Reilly Automotive Inc	ORLY	\$ 29,363.25	0.14%	0.00%	13.00%	13.00%	0.0176%
Occidental Petroleum Corp	OXY	\$ 48,948.90	N/A	4.84%	N/A	N/A	N/A
Paychex Inc	PAYX	\$ 26,487.21	0.12%	3.36%	11.00%	14.54%	0.0177%
People's United Financial Inc	PBCT	\$ 5,816.70	0.03%	4.18%	11.00%	15.41%	0.0041%
PACCAR Inc	PCAR	\$ 23,051.82	0.11%	5.01%	7.00%	12.19%	0.0129%
Public Service Enterprise Group Inc	PEG	\$ 28,067.76	0.13%	3.41%	4.50%	7.99%	0.0103%
PepsiCo Inc	PEP	\$ 159,683.10	0.73%	3.28%	7.50%	10.90%	0.0801%
Pfizer Inc	PFE	\$ 241,045.80	1.11%	3.45%	14.00%	17.69%	0.1963%
Principal Financial Group Inc	PFGE	\$ 13,601.46	0.06%	4.50%	6.50%	11.15%	0.0070%
Procter & Gamble Co/The	PG	\$ 243,003.50	1.12%	2.97%	10.50%	13.63%	0.1524%
Progressive Corp/The	PGR	\$ 39,487.53	0.18%	1.70%	15.50%	17.33%	0.0315%
Parker-Hannifin Corp	PH	\$ 20,997.23	0.10%	1.87%	14.00%	16.00%	0.0155%
PulteGroup Inc	PHM	\$ 7,584.78	0.03%	1.64%	15.50%	17.27%	0.0060%
Packaging Corp of America	PKG	\$ 8,962.38	0.04%	3.33%	9.50%	12.99%	0.0054%
PerkinElmer Inc	PKI	\$ 10,176.68	0.05%	0.31%	11.50%	11.83%	0.0055%
Prologis Inc	PLD	\$ 37,481.86	0.17%	2.84%	9.00%	11.97%	0.0206%
Philip Morris International Inc	PM	\$ 119,278.30	0.55%	5.94%	7.50%	13.66%	0.0750%
PNC Financial Services Group Inc/The	PNC	\$ 56,752.08	0.26%	3.09%	9.50%	12.74%	0.0333%
Pentair PLC	PNR	\$ 7,107.23	0.03%	1.76%	5.50%	7.31%	0.0024%
Pinnacle West Capital Corp	PNW	\$ 9,988.07	0.05%	3.41%	6.00%	9.51%	0.0044%
PPG Industries Inc	PPG	\$ 25,151.94	0.12%	1.83%	4.50%	6.37%	0.0074%
PPL Corp	PPL	\$ 22,346.75	0.10%	5.41%	3.00%	8.49%	0.0087%
Perrigo Co PLC	PRGO	\$ 6,322.79	0.03%	1.81%	0.50%	2.31%	0.0007%
Prudential Financial Inc	PRU	\$ 37,825.61	0.17%	3.94%	6.50%	10.57%	0.0184%
Public Storage	PSA	\$ 36,481.31	0.17%	4.15%	7.00%	11.30%	0.0190%
Phillips 66	PSX	\$ 42,303.61	0.19%	3.72%	8.00%	11.87%	0.0231%
PVH Corp	PVH	\$ 8,441.30	0.04%	0.14%	11.00%	11.15%	0.0043%
Quanta Services Inc	PWR	\$ 5,101.10	0.02%	0.47%	19.50%	20.02%	0.0047%
Pioneer Natural Resources Co	PXD	\$ 23,317.50	0.11%	0.37%	75.00%	75.51%	0.0810%
PayPal Holdings Inc	PYPL	\$ 107,021.30	0.49%	0.00%	18.50%	18.50%	0.0911%
QUALCOMM Inc	QCOM	\$ 61,165.50	0.28%	5.20%	10.50%	15.97%	0.0450%
Qorvo Inc	QRVO	\$ 8,319.31	N/A	0.00%	N/A	N/A	N/A

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Royal Caribbean Cruises Ltd	RCL	\$ 24,174.57	0.11%	2.42%	11.00%	13.55%	0.0151%
Everest Re Group Ltd	RE	\$ 9,043.96	0.04%	2.56%	10.00%	12.69%	0.0053%
Regency Centers Corp	REG	\$ 11,226.29	0.05%	3.38%	14.00%	17.62%	0.0091%
Regeneron Pharmaceuticals Inc	REGN	\$ 43,206.29	0.20%	0.00%	16.50%	16.50%	0.0328%
Regions Financial Corp	RF	\$ 17,006.08	0.08%	3.74%	13.50%	17.49%	0.0137%
Robert Half International Inc	RHI	\$ 7,653.91	0.04%	1.90%	9.00%	10.99%	0.0039%
Red Hat Inc	RHT	\$ 31,661.25	0.15%	0.00%	17.50%	17.50%	0.0255%
Raymond James Financial Inc	RJF	\$ 11,756.22	0.05%	1.73%	12.00%	13.83%	0.0075%
Ralph Lauren Corp	RL	\$ 10,102.75	0.05%	1.99%	7.00%	9.06%	0.0042%
ResMed Inc	RMD	\$ 13,714.67	0.06%	1.55%	14.50%	16.16%	0.0102%
Rockwell Automation Inc	ROK	\$ 20,328.41	0.09%	2.32%	10.50%	12.94%	0.0121%
Rollins Inc	ROL	\$ 12,310.43	0.06%	1.12%	15.50%	16.71%	0.0095%
Roper Technologies Inc	ROP	\$ 30,783.13	0.14%	0.62%	14.50%	15.16%	0.0215%
Ross Stores Inc	ROST	\$ 34,356.26	0.16%	1.04%	11.50%	12.60%	0.0199%
Republic Services Inc	RS	\$ 25,231.16	0.12%	1.97%	13.50%	15.60%	0.0181%
Raytheon Co	RTN	\$ 50,182.80	0.23%	1.97%	11.00%	13.08%	0.0302%
SBA Communications Corp	SBAC	\$ 21,385.31	0.10%	0.00%	45.50%	45.50%	0.0448%
Starbucks Corp	SBUX	\$ 85,961.76	0.40%	2.20%	15.00%	17.37%	0.0687%
Charles Schwab Corp/The	SCHW	\$ 61,071.48	0.28%	1.51%	16.00%	17.63%	0.0496%
Sealed Air Corp	SEE	\$ 6,947.56	0.03%	1.45%	19.00%	20.59%	0.0066%
Sherwin-Williams Co/The	SHW	\$ 39,145.96	0.18%	0.83%	13.00%	13.88%	0.0250%
SVB Financial Group	SIVB	\$ 12,573.92	0.06%	0.00%	21.50%	21.50%	0.0124%
JM Smucker Co/The	SJM	\$ 11,815.85	0.05%	3.33%	4.50%	7.90%	0.0043%
Schlumberger Ltd	SLB	\$ 60,183.49	0.28%	4.60%	26.00%	31.20%	0.0864%
SL Green Realty Corp	SLG	\$ 8,771.03	0.04%	3.69%	6.50%	10.31%	0.0042%
Snap-on Inc	SNA	\$ 8,522.87	0.04%	2.51%	8.00%	10.61%	0.0042%
Synopsys Inc	SNPS	\$ 13,769.02	0.06%	0.00%	10.50%	10.50%	0.0067%
Southern Co/The	SO	\$ 49,110.84	0.23%	5.05%	3.50%	8.64%	0.0195%
Simon Property Group Inc	SPG	\$ 57,828.90	0.27%	4.57%	3.00%	7.64%	0.0203%
S&P Global Inc	SPGI	\$ 48,925.50	0.23%	1.17%	13.50%	14.75%	0.0332%
Sempra Energy	SRE	\$ 32,337.48	0.15%	3.29%	9.50%	12.95%	0.0193%
SunTrust Banks Inc	STI	\$ 29,077.73	0.13%	3.32%	13.50%	17.04%	0.0228%
State Street Corp	STT	\$ 26,473.22	0.12%	2.70%	9.00%	11.82%	0.0144%
Seagate Technology PLC	STX	\$ 12,587.96	0.06%	5.67%	9.00%	14.93%	0.0086%
Constellation Brands Inc	STZ	\$ 33,045.13	0.15%	1.84%	11.00%	12.94%	0.0197%
Stanley Black & Decker Inc	SWK	\$ 19,343.23	0.09%	2.11%	10.00%	12.22%	0.0109%
Skyworks Solutions Inc	SWKS	\$ 14,199.60	0.07%	1.86%	11.00%	12.96%	0.0085%
Synchrony Financial	SYF	\$ 21,640.36	0.10%	2.79%	11.00%	13.94%	0.0139%
Stryker Corp	SYK	\$ 67,634.30	0.31%	1.15%	15.00%	16.24%	0.0505%
Symantec Corp	SYMC	\$ 14,415.84	0.07%	1.33%	9.50%	10.89%	0.0072%
Sysco Corp	SY	\$ 33,435.03	0.15%	2.40%	13.00%	15.56%	0.0239%
AT&T Inc	T	\$ 214,109.80	0.99%	6.93%	7.00%	14.17%	0.1397%
Molson Coors Brewing Co	TAP	\$ 14,150.01	0.07%	2.50%	11.00%	13.64%	0.0089%
TransDigm Group Inc	TDG	\$ 22,246.27	0.10%	0.00%	8.00%	8.00%	0.0082%
TE Connectivity Ltd	TEL	\$ 28,474.77	0.13%	2.17%	9.50%	11.77%	0.0154%
Teleflex Inc	TFX	\$ 12,456.07	0.06%	0.50%	12.00%	12.53%	0.0072%
Target Corp	TGT	\$ 37,497.34	0.17%	3.56%	7.00%	10.68%	0.0184%
Trifany & Co	TIF	\$ 10,796.68	0.05%	2.65%	12.00%	14.81%	0.0074%
TJX Cos Inc/The	TJX	\$ 59,832.19	0.28%	1.65%	13.00%	14.76%	0.0406%
Torchmark Corp	TMK	\$ 9,143.94	0.04%	0.79%	10.00%	10.83%	0.0046%
Thermo Fisher Scientific Inc	TMO	\$ 97,789.73	0.45%	0.28%	10.50%	10.79%	0.0486%
Tapestry Inc	TPR	\$ 9,702.51	0.04%	4.03%	13.00%	17.29%	0.0077%
TnpAdvisor Inc	TRIP	\$ 8,073.75	0.04%	0.00%	10.50%	10.50%	0.0039%
T Rowe Price Group Inc	TROW	\$ 22,741.23	0.10%	3.12%	11.50%	14.80%	0.0155%
Travelers Cos Inc/The	TRV	\$ 33,566.05	0.15%	2.43%	5.50%	8.00%	0.0124%
Tractor Supply Co	TSCO	\$ 11,082.39	0.05%	1.50%	10.50%	12.08%	0.0062%
Tyson Foods Inc	TSN	\$ 22,003.92	0.10%	2.50%	7.00%	9.59%	0.0097%
Total System Services Inc	TSS	\$ 16,572.94	0.08%	0.57%	11.50%	12.10%	0.0092%
Take-Two Interactive Software Inc	TTWO	\$ 10,901.13	0.05%	0.00%	29.50%	29.50%	0.0148%
Twitter Inc	TWTR	\$ 23,420.41	N/A	0.00%	N/A	N/A	N/A
Texas Instruments Inc	TXN	\$ 100,210.70	0.46%	2.97%	12.50%	15.66%	0.0722%
Textron Inc	TXT	\$ 12,890.28	0.06%	0.15%	15.00%	15.16%	0.0090%
Under Armour Inc	UAA	\$ 9,132.38	0.04%	0.00%	11.50%	11.50%	0.0048%
United Continental Holdings Inc	UAL	\$ 23,938.69	0.11%	0.00%	6.00%	6.00%	0.0066%
UDR Inc	UDR	\$ 11,910.05	0.05%	2.90%	-2.50%	0.36%	0.0002%
Universal Health Services Inc	UHS	\$ 12,298.55	0.06%	0.30%	11.00%	11.32%	0.0064%
Ultra Beauty Inc	ULTA	\$ 17,460.13	0.08%	0.00%	20.00%	20.00%	0.0161%
UnitedHealth Group Inc	UNH	\$ 258,778.00	1.19%	1.34%	15.00%	16.44%	0.1958%
Unum Group	UNM	\$ 7,718.74	0.04%	2.95%	9.50%	12.59%	0.0045%
Union Pacific Corp	UNP	\$ 119,160.80	0.55%	1.98%	13.50%	15.61%	0.0856%
United Parcel Service Inc	UPS	\$ 92,720.46	0.43%	3.60%	8.50%	12.25%	0.0523%
United Rentals Inc	URI	\$ 10,272.03	0.05%	0.00%	17.00%	17.00%	0.0080%
US Bancorp	USB	\$ 82,694.55	0.38%	3.02%	7.50%	10.63%	0.0405%
United Technologies Corp	UTX	\$ 96,694.79	0.45%	2.44%	9.50%	12.06%	0.0537%
Visa Inc	V	\$ 285,246.00	1.31%	0.77%	14.50%	15.33%	0.2012%
Varian Medical Systems Inc	VAR	\$ 11,895.21	0.05%	0.00%	8.00%	8.00%	0.0044%
VF Corp	VFC	\$ 34,026.41	0.16%	2.37%	12.00%	14.51%	0.0227%
Viacom Inc	VIAB	\$ 11,843.08	0.05%	2.72%	4.00%	6.77%	0.0037%
Valero Energy Corp	VLO	\$ 35,632.05	0.16%	4.29%	10.00%	14.50%	0.0238%
Vulcan Materials Co	VMC	\$ 13,450.10	0.06%	1.10%	18.00%	19.20%	0.0119%

		[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Vornado Realty Trust	VNO	\$ 13,291.48	0.06%	3.78%	-5.50%	-1.82%	-0.0011%
Vensk Analytics Inc	VRSK	\$ 19,818.52	0.09%	0.00%	9.00%	9.00%	0.0082%
VenSign Inc	VRSN	\$ 20,966.39	0.10%	0.00%	12.00%	12.00%	0.0116%
Vertex Pharmaceuticals Inc	VRTX	\$ 46,055.99	N/A	0.00%	N/A	N/A	N/A
Ventas Inc	VTR	\$ 22,891.80	0.11%	5.03%	3.50%	8.62%	0.0091%
Venzon Communications Inc	VZ	\$ 221,352.00	1.02%	4.50%	4.50%	9.10%	0.0927%
Waters Corp	WAT	\$ 17,417.90	0.08%	0.00%	11.00%	11.00%	0.0088%
Walgreens Boots Alliance Inc	WBA	\$ 67,173.28	0.31%	2.47%	11.00%	13.61%	0.0421%
WellCare Health Plans Inc	WCG	\$ 13,990.90	0.06%	0.00%	22.50%	22.50%	0.0145%
Western Digital Corp	WDC	\$ 13,345.26	0.06%	4.36%	1.50%	5.89%	0.0036%
WEC Energy Group Inc	WEC	\$ 23,345.77	0.11%	3.19%	7.00%	10.30%	0.0111%
Welltower Inc	WELL	\$ 28,641.80	0.13%	4.62%	8.50%	13.32%	0.0176%
Wells Fargo & Co	WFC	\$ 226,531.90	1.04%	3.81%	6.00%	9.92%	0.1035%
Whirlpool Corp	WHR	\$ 8,581.76	0.04%	3.43%	8.00%	11.57%	0.0046%
Willis Towers Watson PLC	WLTW	\$ 21,136.50	N/A	1.47%	N/A	N/A	N/A
Waste Management Inc	WM	\$ 41,384.14	0.19%	1.92%	10.50%	12.52%	0.0238%
Williams Cos Inc/The	WMB	\$ 32,297.26	0.15%	5.10%	22.50%	28.17%	0.0419%
Walmart Inc	WMT	\$ 281,025.80	1.29%	2.19%	7.00%	9.27%	0.1199%
Westrock Co	WRK	\$ 9,607.65	0.04%	4.80%	14.50%	19.65%	0.0087%
Western Union Co/The	WU	\$ 8,128.58	0.04%	4.15%	7.00%	11.30%	0.0042%
Weyerhaeuser Co	WY	\$ 19,411.75	0.09%	5.25%	17.50%	23.21%	0.0207%
Wynn Resorts Ltd	WYNN	\$ 13,795.79	0.06%	2.36%	20.00%	22.60%	0.0143%
Cimarex Energy Co	XEC	\$ 6,841.35	0.03%	1.01%	39.00%	40.21%	0.0127%
Xcel Energy Inc	XEL	\$ 27,271.57	0.13%	3.01%	5.50%	8.59%	0.0108%
Xilinx Inc	XLNX	\$ 28,539.18	0.13%	1.28%	11.00%	12.35%	0.0162%
Exxon Mobil Corp	XOM	\$ 316,195.10	1.46%	4.47%	18.00%	22.87%	0.3329%
DENTSPLY SIRONA Inc	XRAY	\$ 9,536.35	0.04%	0.82%	3.00%	3.83%	0.0017%
Xerox Corp	XRX	\$ 7,104.80	0.03%	3.45%	2.50%	5.99%	0.0020%
Xylem Inc/NY	XYL	\$ 12,645.49	0.06%	1.36%	15.50%	16.97%	0.0099%
Yum! Brands Inc	YUM	\$ 29,612.93	0.14%	1.78%	10.00%	11.87%	0.0162%
Zimmer Biomet Holdings Inc	ZBH	\$ 24,131.16	0.11%	0.81%	4.50%	5.33%	0.0059%
Zions Bancorp NA	ZION	\$ 9,473.93	0.04%	2.43%	15.00%	17.61%	0.0077%
Zoetis Inc	ZTS	\$ 41,465.29	0.19%	0.77%	13.50%	14.32%	0.0273%
Total Market Capitalization		21,726,647.16					17.14%

Notes

- [1] Equals sum of Col. [9]
[2] Source: Bloomberg Professional
[3] Equals [1] - [2]
[4] Source: Value Line
[5] Equals weight in S&P 500 based on market capitalization
[6] Source: Value Line
[7] Source: Value Line
[8] Equals $([6] \times (1 + (0.5 \times [7]))) + [7]$
[9] Equals Col. [5] x Col. [8]

Bloomberg and Value Line Beta Coefficients

Company	Ticker	[1]	[2]
		Bloomberg	Value Line
ALLETE, Inc.	ALE	0.458	0.650
Alliant Energy Corporation	LNT	0.540	0.600
Ameren Corporation	AEE	0.450	0.550
American Electric Power Company, Inc.	AEP	0.506	0.550
Avangrid, Inc.	AGR	0.477	0.400
Black Hills Corporation	BKH	0.544	0.750
CMS Energy Corporation	CMS	0.476	0.550
Consolidated Edison, Inc.	ED	0.483	0.450
DTE Energy Company	DTE	0.506	0.550
Duke Energy Corporation	DUK	0.454	0.500
El Paso Electric Company	EE	0.524	0.650
Evergy, Inc.	EVERG	0.426	0.519
Eversource Energy	ES	0.575	0.600
Hawaiian Electric Industries, Inc.	HE	0.487	0.600
NextEra Energy, Inc.	NEE	0.561	0.600
NorthWestern Corporation	NWE	0.491	0.550
OGE Energy Corp.	OGE	0.562	0.850
Otter Tail Corporation	OTTR	0.526	0.750
Pinnacle West Capital Corporation	PNW	0.424	0.550
PNM Resources, Inc.	PNM	0.513	0.650
Portland General Electric Company	POR	0.484	0.600
Southern Company	SO	0.493	0.500
WEC Energy Group, Inc.	WEC	0.487	0.500
Xcel Energy Inc.	XEL	0.491	0.500
Mean		0.497	0.582

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line. Value Line does not report a Beta coefficient for Evergy, Inc. Therefore, the Beta coefficient for Evergy has been manually calculated according to Value Line's methodology.

Capital Asset Pricing Model Results
Bloomberg and Value Line Derived Market Risk Premium

	[1]	[2]	[3]	[4]	[5]	[6]
					CAPM	
	Risk-Free Rate	Average Beta Coefficient	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg MRP	Value Line MRP
PROXY GROUP BLOOMBERG BETA COEFFICIENT						
Current 30-Year Treasury (30-day average) [7]	3.03%	0.497	10.72%	14.10%	8.37%	10.05%
Near-Term Projected 30-Year Treasury [8]	3.33%	0.497	10.72%	14.10%	8.66%	10.35%
Mean					8.52%	10.20%
					CAPM	
	Risk-Free Rate	Average Beta Coefficient	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg MRP	Value Line MRP
PROXY GROUP VALUE LINE AVERAGE BETA COEFFICIENT						
Current 30-Year Treasury (30-day average) [7]	3.03%	0.582	10.72%	14.10%	9.27%	11.24%
Near-Term Projected 30-Year Treasury [8]	3.33%	0.582	10.72%	14.10%	9.57%	11.54%
Mean					9.42%	11.39%

Notes

[1] See Notes [7] and [8]

[2] Source: Exhibit RBH-3

[3] Source: Exhibit RBH-2

[4] Source: Exhibit RBH-2

[5] Equals Col. [1] + (Col. [2] x Col. [3])

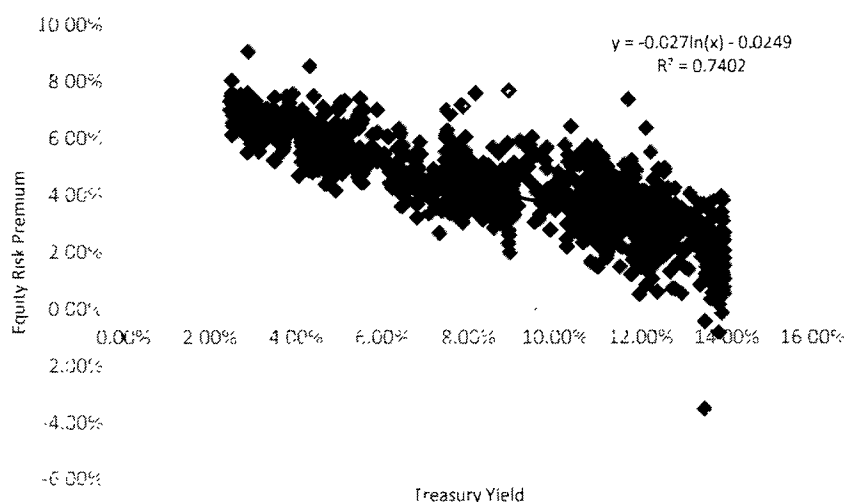
[6] Equals Col. [1] + (Col. [2] x Col. [4])

[7] Source: Bloomberg Professional

[8] Source: Blue Chip Financial Forecasts, Vol. 38, No. 2, February 1, 2019, at 2.

Bond Yield Plus Risk Premium

	[1]	[2]	[3]	[4]	[5]
	Constant	Slope	30-Year Treasury Yield	Risk Premium	Return on Equity
Current	-2.49%	-2.69%	3.03%	6.90%	9.93%
Near Term Projected	-2.49%	-2.69%	3.33%	6.65%	9.98%
Long-Term Projected	-2.49%	-2.69%	4.05%	6.12%	10.17%



Notes:

- [1] Constant of regression equation
- [2] Slope of regression equation
- [3] Source: Current = Bloomberg Professional.
Near Term Projected = Blue Chip Financial Forecasts, Vol. 38, No. 2, February 1, 2019,
Long Term Projected = Blue Chip Financial Forecasts, Vol. 37, No. 12, December 1, 201
- [4] Equals [1] + ln([3]) x [2]
- [5] Equals [3] + [4]
- [6] Source: S&P Global Market Intelligence
- [7] Source: S&P Global Market Intelligence
- [8] Source: Bloomberg Professional, equals 200-trading day average (i.e. lag period)
- [9] Equals [7] - [8]

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
1/1/1980	14.50%	9.36%	5.14%
1/7/1980	14.39%	9.38%	5.01%
1/9/1980	15.00%	9.40%	5.60%

1/14/1980	15.17%	9.42%	5.75%
1/17/1980	13.93%	9.44%	4.49%
1/23/1980	15.50%	9.47%	6.03%
1/30/1980	13.86%	9.52%	4.34%
1/31/1980	12.61%	9.53%	3.08%
2/6/1980	13.71%	9.58%	4.13%
2/13/1980	12.80%	9.63%	3.17%
2/14/1980	13.00%	9.65%	3.35%
2/19/1980	13.50%	9.68%	3.82%
2/27/1980	13.75%	9.78%	3.97%
2/29/1980	13.75%	9.81%	3.94%
2/29/1980	14.00%	9.81%	4.19%
2/29/1980	14.77%	9.81%	4.96%
3/7/1980	12.70%	9.89%	2.81%
3/14/1980	13.50%	9.97%	3.53%
3/26/1980	14.16%	10.10%	4.06%
3/27/1980	14.24%	10.12%	4.12%
3/28/1980	14.50%	10.13%	4.37%
4/11/1980	12.75%	10.27%	2.48%
4/14/1980	13.85%	10.29%	3.56%
4/16/1980	15.50%	10.31%	5.19%
4/22/1980	13.25%	10.35%	2.90%
4/22/1980	13.90%	10.35%	3.55%
4/24/1980	16.80%	10.38%	6.43%
4/29/1980	15.50%	10.41%	5.09%
5/6/1980	13.70%	10.45%	3.25%
5/7/1980	15.00%	10.45%	4.55%
5/8/1980	13.75%	10.46%	3.29%
5/9/1980	14.35%	10.47%	3.88%
5/13/1980	13.60%	10.48%	3.12%
5/15/1980	13.25%	10.49%	2.76%
5/19/1980	13.75%	10.51%	3.24%
5/27/1980	13.62%	10.54%	3.08%
5/27/1980	14.60%	10.54%	4.06%
5/29/1980	16.00%	10.56%	5.44%
5/30/1980	13.80%	10.56%	3.24%
6/2/1980	15.63%	10.57%	5.06%
6/9/1980	15.90%	10.60%	5.30%
6/10/1980	13.78%	10.60%	3.18%
6/12/1980	14.25%	10.61%	3.64%
6/19/1980	13.40%	10.62%	2.78%
6/30/1980	13.00%	10.65%	2.35%
6/30/1980	13.40%	10.65%	2.75%
7/9/1980	14.75%	10.67%	4.08%
7/10/1980	15.00%	10.68%	4.32%
7/15/1980	15.80%	10.70%	5.10%
7/18/1980	13.80%	10.71%	3.09%
7/22/1980	14.10%	10.72%	3.38%
7/24/1980	15.00%	10.73%	4.27%
7/25/1980	13.48%	10.73%	2.75%
7/31/1980	14.58%	10.75%	3.83%
8/8/1980	13.50%	10.78%	2.72%

8/8/1980	14.00%	10.78%	3.22%
8/8/1980	15.45%	10.78%	4.67%
8/11/1980	14.85%	10.78%	4.07%
8/14/1980	14.00%	10.79%	3.21%
8/14/1980	16.25%	10.79%	5.46%
8/25/1980	13.75%	10.82%	2.93%
8/27/1980	13.80%	10.83%	2.97%
8/29/1980	12.50%	10.84%	1.66%
9/15/1980	13.50%	10.88%	2.62%
9/15/1980	13.93%	10.88%	3.05%
9/15/1980	15.80%	10.88%	4.92%
9/24/1980	12.50%	10.93%	1.57%
9/24/1980	15.00%	10.93%	4.07%
9/26/1980	13.75%	10.94%	2.81%
9/30/1980	14.10%	10.96%	3.14%
9/30/1980	14.20%	10.96%	3.24%
10/1/1980	13.90%	10.97%	2.93%
10/3/1980	15.50%	10.98%	4.52%
10/7/1980	12.50%	10.99%	1.51%
10/9/1980	13.25%	11.00%	2.25%
10/9/1980	14.50%	11.00%	3.50%
10/9/1980	14.50%	11.00%	3.50%
10/16/1980	16.10%	11.02%	5.08%
10/17/1980	14.50%	11.03%	3.47%
10/31/1980	13.75%	11.11%	2.64%
10/31/1980	14.25%	11.11%	3.14%
11/4/1980	15.00%	11.12%	3.88%
11/5/1980	13.75%	11.12%	2.63%
11/5/1980	14.00%	11.12%	2.88%
11/8/1980	13.75%	11.14%	2.61%
11/10/1980	14.85%	11.15%	3.70%
11/17/1980	14.00%	11.18%	2.82%
11/18/1980	14.00%	11.19%	2.81%
11/19/1980	13.00%	11.19%	1.81%
11/24/1980	14.00%	11.21%	2.79%
11/26/1980	14.00%	11.21%	2.79%
12/8/1980	14.15%	11.22%	2.93%
12/8/1980	15.10%	11.22%	3.88%
12/9/1980	15.35%	11.22%	4.13%
12/12/1980	15.45%	11.23%	4.22%
12/17/1980	13.25%	11.23%	2.02%
12/18/1980	15.80%	11.23%	4.57%
12/19/1980	14.50%	11.23%	3.27%
12/19/1980	14.64%	11.23%	3.41%
12/22/1980	13.45%	11.23%	2.22%
12/22/1980	15.00%	11.23%	3.77%
12/30/1980	14.50%	11.22%	3.28%
12/30/1980	14.95%	11.22%	3.73%
12/31/1980	13.39%	11.22%	2.17%
1/2/1981	15.25%	11.22%	4.03%
1/7/1981	14.30%	11.21%	3.09%
1/19/1981	15.25%	11.20%	4.05%

1/23/1981	13.10%	11.20%	1.90%
1/23/1981	14.40%	11.20%	3.20%
1/26/1981	15.25%	11.20%	4.05%
1/27/1981	15.00%	11.21%	3.79%
1/31/1981	13.47%	11.22%	2.25%
2/3/1981	15.25%	11.23%	4.02%
2/5/1981	15.75%	11.25%	4.50%
2/11/1981	15.60%	11.28%	4.32%
2/20/1981	15.25%	11.33%	3.92%
3/11/1981	15.40%	11.49%	3.91%
3/12/1981	14.51%	11.50%	3.01%
3/12/1981	16.00%	11.50%	4.50%
3/13/1981	13.02%	11.52%	1.50%
3/18/1981	16.19%	11.55%	4.64%
3/19/1981	13.75%	11.56%	2.19%
3/23/1981	14.30%	11.58%	2.72%
3/25/1981	15.30%	11.60%	3.70%
4/1/1981	14.53%	11.68%	2.85%
4/3/1981	19.10%	11.71%	7.39%
4/9/1981	15.00%	11.78%	3.22%
4/9/1981	15.30%	11.78%	3.52%
4/9/1981	16.50%	11.78%	4.72%
4/9/1981	17.00%	11.78%	5.22%
4/10/1981	13.75%	11.80%	1.95%
4/13/1981	13.57%	11.82%	1.75%
4/15/1981	15.30%	11.85%	3.45%
4/16/1981	13.50%	11.87%	1.63%
4/17/1981	14.10%	11.87%	2.23%
4/21/1981	14.00%	11.90%	2.10%
4/21/1981	16.80%	11.90%	4.90%
4/24/1981	16.00%	11.95%	4.05%
4/27/1981	12.50%	11.97%	0.53%
4/27/1981	13.61%	11.97%	1.64%
4/29/1981	13.65%	12.00%	1.65%
4/30/1981	13.50%	12.02%	1.48%
5/4/1981	16.22%	12.05%	4.17%
5/5/1981	14.40%	12.07%	2.33%
5/7/1981	16.25%	12.11%	4.14%
5/7/1981	16.27%	12.11%	4.16%
5/8/1981	13.00%	12.13%	0.87%
5/8/1981	16.00%	12.13%	3.87%
5/12/1981	13.50%	12.16%	1.34%
5/15/1981	15.75%	12.22%	3.53%
5/18/1981	14.88%	12.23%	2.65%
5/20/1981	16.00%	12.26%	3.74%
5/21/1981	14.00%	12.27%	1.73%
5/26/1981	14.90%	12.30%	2.60%
5/27/1981	15.00%	12.31%	2.69%
5/29/1981	15.50%	12.34%	3.16%
6/1/1981	16.50%	12.35%	4.15%
6/3/1981	14.67%	12.37%	2.30%
6/5/1981	13.00%	12.39%	0.61%

6/10/1981	16.75%	12.42%	4.33%
6/17/1981	14.40%	12.46%	1.94%
6/18/1981	16.33%	12.47%	3.86%
6/25/1981	14.75%	12.51%	2.24%
6/26/1981	16.00%	12.52%	3.48%
6/30/1981	15.25%	12.54%	2.71%
7/1/1981	15.50%	12.56%	2.94%
7/1/1981	17.50%	12.56%	4.94%
7/10/1981	16.00%	12.62%	3.38%
7/14/1981	16.90%	12.64%	4.26%
7/15/1981	16.00%	12.65%	3.35%
7/17/1981	15.00%	12.67%	2.33%
7/20/1981	15.00%	12.68%	2.32%
7/21/1981	14.00%	12.69%	1.31%
7/28/1981	13.48%	12.74%	0.74%
7/31/1981	13.50%	12.78%	0.72%
7/31/1981	15.00%	12.78%	2.22%
7/31/1981	16.00%	12.78%	3.22%
8/5/1981	15.71%	12.83%	2.88%
8/10/1981	14.50%	12.87%	1.63%
8/11/1981	15.00%	12.88%	2.12%
8/20/1981	13.50%	12.95%	0.55%
8/20/1981	16.50%	12.95%	3.55%
8/24/1981	15.00%	12.97%	2.03%
8/28/1981	15.00%	13.01%	1.99%
9/3/1981	14.50%	13.05%	1.45%
9/10/1981	14.50%	13.11%	1.39%
9/11/1981	16.00%	13.12%	2.88%
9/16/1981	16.00%	13.15%	2.85%
9/17/1981	16.50%	13.16%	3.34%
9/23/1981	15.85%	13.20%	2.65%
9/28/1981	15.50%	13.23%	2.27%
10/9/1981	15.75%	13.33%	2.42%
10/15/1981	16.25%	13.37%	2.88%
10/16/1981	15.50%	13.38%	2.12%
10/16/1981	16.50%	13.38%	3.12%
10/19/1981	14.25%	13.39%	0.86%
10/20/1981	15.25%	13.41%	1.84%
10/20/1981	17.00%	13.41%	3.59%
10/23/1981	16.00%	13.45%	2.55%
10/27/1981	10.00%	13.48%	-3.48%
10/29/1981	14.75%	13.51%	1.24%
10/29/1981	16.50%	13.51%	2.99%
11/3/1981	15.17%	13.53%	1.64%
11/5/1981	16.60%	13.55%	3.05%
11/6/1981	15.17%	13.56%	1.61%
11/24/1981	15.50%	13.61%	1.89%
11/25/1981	15.25%	13.61%	1.64%
11/25/1981	15.35%	13.61%	1.74%
11/25/1981	16.10%	13.61%	2.49%
11/25/1981	16.10%	13.61%	2.49%
12/1/1981	15.70%	13.61%	2.09%

12/1/1981	16.00%	13.61%	2.39%
12/1/1981	16.49%	13.61%	2.88%
12/1/1981	16.50%	13.61%	2.89%
12/4/1981	16.00%	13.61%	2.39%
12/11/1981	16.25%	13.63%	2.62%
12/14/1981	14.00%	13.63%	0.37%
12/15/1981	15.81%	13.63%	2.18%
12/15/1981	16.00%	13.63%	2.37%
12/16/1981	15.25%	13.63%	1.62%
12/17/1981	16.50%	13.63%	2.87%
12/18/1981	15.45%	13.63%	1.82%
12/30/1981	14.25%	13.67%	0.58%
12/30/1981	16.00%	13.67%	2.33%
12/30/1981	16.25%	13.67%	2.58%
12/31/1981	16.15%	13.67%	2.48%
1/4/1982	15.50%	13.67%	1.83%
1/11/1982	14.50%	13.72%	0.78%
1/11/1982	17.00%	13.72%	3.28%
1/13/1982	14.75%	13.74%	1.01%
1/14/1982	15.75%	13.75%	2.00%
1/15/1982	15.00%	13.76%	1.24%
1/15/1982	16.50%	13.76%	2.74%
1/22/1982	16.25%	13.79%	2.46%
1/27/1982	16.84%	13.81%	3.03%
1/28/1982	13.00%	13.81%	-0.81%
1/29/1982	15.50%	13.82%	1.68%
2/1/1982	15.85%	13.82%	2.03%
2/3/1982	16.44%	13.84%	2.60%
2/8/1982	15.50%	13.86%	1.64%
2/11/1982	16.00%	13.88%	2.12%
2/11/1982	16.20%	13.88%	2.32%
2/17/1982	15.00%	13.89%	1.11%
2/19/1982	15.17%	13.89%	1.28%
2/26/1982	15.25%	13.89%	1.36%
3/1/1982	15.03%	13.89%	1.14%
3/1/1982	16.00%	13.89%	2.11%
3/3/1982	15.00%	13.88%	1.12%
3/8/1982	17.10%	13.88%	3.22%
3/12/1982	16.25%	13.88%	2.37%
3/17/1982	17.30%	13.88%	3.42%
3/22/1982	15.10%	13.89%	1.21%
3/27/1982	15.40%	13.89%	1.51%
3/30/1982	15.50%	13.90%	1.60%
3/31/1982	17.00%	13.91%	3.09%
4/1/1982	14.70%	13.91%	0.79%
4/1/1982	16.50%	13.91%	2.59%
4/2/1982	15.50%	13.91%	1.59%
4/5/1982	15.50%	13.92%	1.58%
4/8/1982	16.40%	13.93%	2.47%
4/13/1982	14.50%	13.94%	0.56%
4/23/1982	15.75%	13.94%	1.81%
4/27/1982	15.00%	13.94%	1.06%

4/28/1982	15.75%	13.94%	1.81%
4/30/1982	14.70%	13.94%	0.76%
4/30/1982	15.50%	13.94%	1.56%
5/3/1982	16.60%	13.94%	2.66%
5/4/1982	16.00%	13.94%	2.06%
5/14/1982	15.50%	13.92%	1.58%
5/18/1982	15.42%	13.92%	1.50%
5/19/1982	14.69%	13.92%	0.77%
5/20/1982	15.00%	13.91%	1.09%
5/20/1982	15.10%	13.91%	1.19%
5/20/1982	15.50%	13.91%	1.59%
5/20/1982	16.30%	13.91%	2.39%
5/21/1982	17.75%	13.91%	3.84%
5/27/1982	15.00%	13.89%	1.11%
5/28/1982	15.50%	13.89%	1.61%
5/28/1982	17.00%	13.89%	3.11%
6/1/1982	13.75%	13.89%	-0.14%
6/1/1982	16.60%	13.89%	2.71%
6/9/1982	17.86%	13.88%	3.98%
6/14/1982	15.75%	13.88%	1.87%
6/15/1982	14.85%	13.88%	0.97%
6/18/1982	15.50%	13.87%	1.63%
6/21/1982	14.90%	13.87%	1.03%
6/23/1982	16.00%	13.86%	2.14%
6/23/1982	16.17%	13.86%	2.31%
6/24/1982	14.85%	13.86%	0.99%
6/25/1982	14.70%	13.86%	0.84%
7/1/1982	16.00%	13.84%	2.16%
7/2/1982	15.62%	13.84%	1.78%
7/2/1982	17.00%	13.84%	3.16%
7/13/1982	14.00%	13.82%	0.18%
7/13/1982	16.80%	13.82%	2.98%
7/14/1982	15.76%	13.82%	1.94%
7/14/1982	16.02%	13.82%	2.20%
7/19/1982	16.50%	13.80%	2.70%
7/22/1982	14.50%	13.77%	0.73%
7/22/1982	17.00%	13.77%	3.23%
7/27/1982	16.75%	13.75%	3.00%
7/29/1982	16.50%	13.74%	2.76%
8/11/1982	17.50%	13.68%	3.82%
8/18/1982	17.07%	13.63%	3.44%
8/20/1982	15.73%	13.60%	2.13%
8/25/1982	16.00%	13.57%	2.43%
8/26/1982	15.50%	13.56%	1.94%
8/30/1982	15.00%	13.55%	1.45%
9/3/1982	16.20%	13.53%	2.67%
9/8/1982	15.00%	13.52%	1.48%
9/15/1982	13.08%	13.50%	-0.42%
9/15/1982	16.25%	13.50%	2.75%
9/16/1982	16.00%	13.50%	2.50%
9/17/1982	15.25%	13.50%	1.75%
9/23/1982	17.17%	13.47%	3.70%

9/24/1982	14.50%	13.46%	1.04%
9/27/1982	15.25%	13.46%	1.79%
10/1/1982	15.50%	13.42%	2.08%
10/15/1982	15.90%	13.32%	2.58%
10/22/1982	15.75%	13.24%	2.51%
10/22/1982	17.15%	13.24%	3.91%
10/29/1982	15.54%	13.16%	2.38%
11/1/1982	15.50%	13.15%	2.35%
11/3/1982	17.20%	13.13%	4.07%
11/4/1982	16.25%	13.11%	3.14%
11/5/1982	16.20%	13.09%	3.11%
11/9/1982	16.00%	13.05%	2.95%
11/23/1982	15.50%	12.89%	2.61%
11/23/1982	15.85%	12.89%	2.96%
11/30/1982	16.50%	12.81%	3.69%
12/1/1982	17.04%	12.79%	4.25%
12/6/1982	15.00%	12.73%	2.27%
12/6/1982	16.35%	12.73%	3.62%
12/10/1982	15.50%	12.66%	2.84%
12/13/1982	16.00%	12.65%	3.35%
12/14/1982	15.30%	12.63%	2.67%
12/14/1982	16.40%	12.63%	3.77%
12/20/1982	16.00%	12.57%	3.43%
12/21/1982	14.75%	12.56%	2.19%
12/21/1982	15.85%	12.56%	3.29%
12/22/1982	16.25%	12.54%	3.71%
12/22/1982	16.58%	12.54%	4.04%
12/22/1982	16.75%	12.54%	4.21%
12/29/1982	14.90%	12.48%	2.42%
12/29/1982	16.25%	12.48%	3.77%
12/30/1982	16.00%	12.47%	3.53%
12/30/1982	16.35%	12.47%	3.88%
12/30/1982	16.77%	12.47%	4.30%
1/5/1983	17.33%	12.40%	4.93%
1/11/1983	15.90%	12.34%	3.56%
1/12/1983	14.63%	12.33%	2.30%
1/12/1983	15.50%	12.33%	3.17%
1/20/1983	17.75%	12.24%	5.51%
1/21/1983	15.00%	12.22%	2.78%
1/24/1983	14.50%	12.21%	2.29%
1/24/1983	15.50%	12.21%	3.29%
1/25/1983	15.85%	12.19%	3.66%
1/27/1983	16.14%	12.17%	3.97%
2/1/1983	18.50%	12.13%	6.37%
2/4/1983	14.00%	12.10%	1.90%
2/10/1983	15.00%	12.06%	2.94%
2/21/1983	15.50%	11.98%	3.52%
2/22/1983	15.50%	11.97%	3.53%
2/23/1983	15.10%	11.96%	3.14%
2/23/1983	16.00%	11.96%	4.04%
3/2/1983	15.25%	11.89%	3.36%
3/9/1983	15.20%	11.82%	3.38%

3/15/1983	13.00%	11.77%	1.23%
3/18/1983	15.25%	11.73%	3.52%
3/23/1983	15.40%	11.69%	3.71%
3/24/1983	15.00%	11.67%	3.33%
3/29/1983	15.50%	11.63%	3.87%
3/30/1983	16.71%	11.61%	5.10%
3/31/1983	15.00%	11.59%	3.41%
4/4/1983	15.20%	11.58%	3.62%
4/8/1983	15.50%	11.51%	3.99%
4/11/1983	14.81%	11.49%	3.32%
4/19/1983	14.50%	11.38%	3.12%
4/20/1983	16.00%	11.36%	4.64%
4/29/1983	16.00%	11.24%	4.76%
5/1/1983	14.50%	11.24%	3.26%
5/9/1983	15.50%	11.15%	4.35%
5/11/1983	16.46%	11.12%	5.34%
5/12/1983	14.14%	11.11%	3.03%
5/18/1983	15.00%	11.05%	3.95%
5/23/1983	14.90%	11.01%	3.89%
5/23/1983	15.50%	11.01%	4.49%
5/25/1983	15.50%	10.98%	4.52%
5/27/1983	15.00%	10.96%	4.04%
5/31/1983	14.00%	10.95%	3.05%
5/31/1983	15.50%	10.95%	4.55%
6/2/1983	14.50%	10.93%	3.57%
6/17/1983	15.03%	10.84%	4.19%
7/1/1983	14.80%	10.78%	4.02%
7/1/1983	14.90%	10.78%	4.12%
7/8/1983	16.25%	10.76%	5.49%
7/13/1983	13.20%	10.75%	2.45%
7/19/1983	15.00%	10.74%	4.26%
7/19/1983	15.10%	10.74%	4.36%
7/25/1983	16.25%	10.73%	5.52%
7/28/1983	15.90%	10.74%	5.16%
8/3/1983	16.34%	10.75%	5.59%
8/3/1983	16.50%	10.75%	5.75%
8/19/1983	15.00%	10.80%	4.20%
8/22/1983	15.50%	10.80%	4.70%
8/22/1983	16.40%	10.80%	5.60%
8/31/1983	14.75%	10.84%	3.91%
9/7/1983	15.00%	10.86%	4.14%
9/14/1983	15.78%	10.89%	4.89%
9/16/1983	15.00%	10.90%	4.10%
9/19/1983	14.50%	10.91%	3.59%
9/20/1983	16.50%	10.91%	5.59%
9/28/1983	14.50%	10.94%	3.56%
9/29/1983	15.50%	10.95%	4.55%
9/30/1983	15.25%	10.95%	4.30%
9/30/1983	16.15%	10.95%	5.20%
10/4/1983	14.80%	10.96%	3.84%
10/7/1983	16.00%	10.97%	5.03%
10/13/1983	15.52%	10.99%	4.53%

10/17/1983	15.50%	11.00%	4.50%
10/18/1983	14.50%	11.00%	3.50%
10/19/1983	16.25%	11.01%	5.24%
10/19/1983	16.50%	11.01%	5.49%
10/26/1983	15.00%	11.04%	3.96%
10/27/1983	15.20%	11.04%	4.16%
11/1/1983	16.00%	11.06%	4.94%
11/9/1983	14.90%	11.09%	3.81%
11/10/1983	14.35%	11.10%	3.25%
11/23/1983	16.00%	11.13%	4.87%
11/23/1983	16.15%	11.13%	5.02%
11/30/1983	15.00%	11.14%	3.86%
12/5/1983	15.25%	11.15%	4.10%
12/6/1983	15.07%	11.15%	3.92%
12/8/1983	15.90%	11.16%	4.74%
12/9/1983	14.75%	11.17%	3.58%
12/12/1983	14.50%	11.17%	3.33%
12/15/1983	15.56%	11.19%	4.37%
12/19/1983	14.80%	11.21%	3.59%
12/20/1983	14.69%	11.22%	3.47%
12/20/1983	16.00%	11.22%	4.78%
12/20/1983	16.25%	11.22%	5.03%
12/22/1983	14.75%	11.23%	3.52%
12/22/1983	15.75%	11.23%	4.52%
1/3/1984	14.75%	11.27%	3.48%
1/10/1984	15.90%	11.30%	4.60%
1/12/1984	15.60%	11.31%	4.29%
1/18/1984	13.75%	11.33%	2.42%
1/19/1984	15.90%	11.33%	4.57%
1/30/1984	16.10%	11.37%	4.73%
1/31/1984	15.25%	11.37%	3.88%
2/1/1984	14.80%	11.38%	3.42%
2/6/1984	13.75%	11.40%	2.35%
2/6/1984	14.75%	11.40%	3.35%
2/9/1984	15.25%	11.42%	3.83%
2/15/1984	15.70%	11.44%	4.26%
2/20/1984	15.00%	11.46%	3.54%
2/20/1984	15.00%	11.46%	3.54%
2/22/1984	14.75%	11.47%	3.28%
2/28/1984	14.50%	11.51%	2.99%
3/2/1984	14.25%	11.54%	2.71%
3/20/1984	16.00%	11.64%	4.36%
3/23/1984	15.50%	11.67%	3.83%
3/26/1984	14.71%	11.68%	3.03%
4/2/1984	15.50%	11.71%	3.79%
4/6/1984	14.74%	11.75%	2.99%
4/11/1984	15.72%	11.78%	3.94%
4/17/1984	15.00%	11.81%	3.19%
4/18/1984	16.20%	11.82%	4.38%
4/25/1984	14.64%	11.85%	2.79%
4/30/1984	14.40%	11.87%	2.53%
5/16/1984	14.69%	11.98%	2.71%

5/16/1984	15.00%	11.98%	3.02%
5/22/1984	14.40%	12.02%	2.38%
5/29/1984	15.10%	12.06%	3.04%
6/13/1984	15.25%	12.15%	3.10%
6/15/1984	15.60%	12.17%	3.43%
6/22/1984	16.25%	12.21%	4.04%
6/29/1984	15.25%	12.26%	2.99%
7/2/1984	13.35%	12.27%	1.08%
7/10/1984	16.00%	12.31%	3.69%
7/12/1984	16.50%	12.32%	4.18%
7/13/1984	16.25%	12.33%	3.92%
7/17/1984	14.14%	12.35%	1.79%
7/18/1984	15.30%	12.36%	2.94%
7/18/1984	15.50%	12.36%	3.14%
7/19/1984	14.30%	12.37%	1.93%
7/24/1984	16.79%	12.39%	4.40%
7/31/1984	16.00%	12.43%	3.57%
8/3/1984	14.25%	12.44%	1.81%
8/17/1984	14.30%	12.49%	1.81%
8/20/1984	15.00%	12.49%	2.51%
8/27/1984	16.30%	12.51%	3.79%
8/31/1984	15.55%	12.52%	3.03%
9/6/1984	16.00%	12.53%	3.47%
9/10/1984	14.75%	12.54%	2.21%
9/13/1984	15.00%	12.55%	2.45%
9/17/1984	17.38%	12.56%	4.82%
9/26/1984	14.50%	12.57%	1.93%
9/28/1984	15.00%	12.57%	2.43%
9/28/1984	16.25%	12.57%	3.68%
10/9/1984	14.75%	12.58%	2.17%
10/12/1984	15.60%	12.59%	3.01%
10/22/1984	15.00%	12.59%	2.41%
10/26/1984	16.40%	12.58%	3.82%
10/31/1984	16.25%	12.58%	3.67%
11/7/1984	15.60%	12.58%	3.02%
11/9/1984	16.00%	12.58%	3.42%
11/14/1984	15.75%	12.58%	3.17%
11/20/1984	15.25%	12.58%	2.67%
11/20/1984	15.92%	12.58%	3.34%
11/23/1984	15.00%	12.58%	2.42%
11/28/1984	16.15%	12.57%	3.58%
12/3/1984	15.80%	12.56%	3.24%
12/4/1984	16.50%	12.56%	3.94%
12/18/1984	16.40%	12.53%	3.87%
12/19/1984	14.75%	12.53%	2.22%
12/19/1984	15.00%	12.53%	2.47%
12/20/1984	16.00%	12.53%	3.47%
12/28/1984	16.00%	12.50%	3.50%
1/3/1985	14.75%	12.49%	2.26%
1/10/1985	15.75%	12.47%	3.28%
1/11/1985	16.30%	12.46%	3.84%
1/23/1985	15.80%	12.43%	3.37%

1/24/1985	15.82%	12.43%	3.39%
1/25/1985	16.75%	12.42%	4.33%
1/30/1985	14.90%	12.40%	2.50%
1/31/1985	14.75%	12.39%	2.36%
2/8/1985	14.47%	12.35%	2.12%
3/1/1985	13.84%	12.31%	1.53%
3/8/1985	16.85%	12.28%	4.57%
3/14/1985	15.50%	12.25%	3.25%
3/15/1985	15.62%	12.25%	3.37%
3/29/1985	15.62%	12.17%	3.45%
4/3/1985	14.60%	12.14%	2.46%
4/9/1985	15.50%	12.11%	3.39%
4/16/1985	15.70%	12.06%	3.64%
4/22/1985	14.00%	12.02%	1.98%
4/26/1985	15.50%	11.98%	3.52%
4/29/1985	15.00%	11.97%	3.03%
5/2/1985	14.68%	11.94%	2.74%
5/8/1985	15.62%	11.89%	3.73%
5/10/1985	16.50%	11.87%	4.63%
5/29/1985	14.61%	11.73%	2.88%
5/31/1985	16.00%	11.71%	4.29%
6/14/1985	15.50%	11.61%	3.89%
7/9/1985	15.00%	11.45%	3.55%
7/16/1985	14.50%	11.39%	3.11%
7/26/1985	14.50%	11.33%	3.17%
8/2/1985	14.80%	11.29%	3.51%
8/7/1985	15.00%	11.27%	3.73%
8/28/1985	14.25%	11.15%	3.10%
8/28/1985	15.50%	11.15%	4.35%
8/29/1985	14.50%	11.15%	3.35%
9/9/1985	14.60%	11.11%	3.49%
9/9/1985	14.90%	11.11%	3.79%
9/17/1985	14.90%	11.08%	3.82%
9/23/1985	15.00%	11.06%	3.94%
9/27/1985	15.50%	11.05%	4.45%
9/27/1985	15.80%	11.05%	4.75%
10/2/1985	14.00%	11.03%	2.97%
10/2/1985	14.75%	11.03%	3.72%
10/3/1985	15.25%	11.03%	4.22%
10/24/1985	15.40%	10.96%	4.44%
10/24/1985	15.82%	10.96%	4.86%
10/24/1985	15.85%	10.96%	4.89%
10/28/1985	16.00%	10.95%	5.05%
10/29/1985	16.65%	10.94%	5.71%
10/31/1985	15.06%	10.93%	4.13%
11/4/1985	14.50%	10.92%	3.58%
11/7/1985	15.50%	10.90%	4.60%
11/8/1985	14.30%	10.89%	3.41%
12/12/1985	14.75%	10.73%	4.02%
12/18/1985	15.00%	10.69%	4.31%
12/20/1985	14.50%	10.67%	3.83%
12/20/1985	14.50%	10.67%	3.83%

12/20/1985	15.00%	10.67%	4.33%
1/24/1986	15.40%	10.41%	4.99%
1/31/1986	15.00%	10.35%	4.65%
2/5/1986	15.00%	10.32%	4.68%
2/5/1986	15.75%	10.32%	5.43%
2/10/1986	13.30%	10.29%	3.01%
2/11/1986	12.50%	10.28%	2.22%
2/14/1986	14.40%	10.24%	4.16%
2/18/1986	16.00%	10.23%	5.77%
2/24/1986	14.50%	10.18%	4.32%
2/26/1986	14.00%	10.15%	3.85%
3/5/1986	14.90%	10.08%	4.82%
3/11/1986	14.50%	10.02%	4.48%
3/12/1986	13.50%	10.00%	3.50%
3/27/1986	14.10%	9.86%	4.24%
3/31/1986	13.50%	9.84%	3.66%
4/1/1986	14.00%	9.83%	4.17%
4/2/1986	15.50%	9.81%	5.69%
4/4/1986	15.00%	9.78%	5.22%
4/14/1986	13.40%	9.69%	3.71%
4/23/1986	15.00%	9.57%	5.43%
5/16/1986	14.50%	9.32%	5.18%
5/16/1986	14.50%	9.32%	5.18%
5/29/1986	13.90%	9.19%	4.71%
5/30/1986	15.10%	9.18%	5.92%
6/2/1986	12.81%	9.17%	3.64%
6/11/1986	14.00%	9.07%	4.93%
6/24/1986	16.63%	8.94%	7.69%
6/26/1986	12.00%	8.91%	3.09%
6/26/1986	14.75%	8.91%	5.84%
6/30/1986	13.00%	8.87%	4.13%
7/10/1986	14.34%	8.75%	5.59%
7/11/1986	12.75%	8.73%	4.02%
7/14/1986	12.60%	8.71%	3.89%
7/17/1986	12.40%	8.66%	3.74%
7/25/1986	14.25%	8.57%	5.68%
8/6/1986	13.50%	8.44%	5.06%
8/14/1986	13.50%	8.35%	5.15%
9/16/1986	12.75%	8.06%	4.69%
9/19/1986	13.25%	8.03%	5.22%
10/1/1986	14.00%	7.95%	6.05%
10/3/1986	13.40%	7.93%	5.47%
10/31/1986	13.50%	7.77%	5.73%
11/5/1986	13.00%	7.75%	5.25%
12/3/1986	12.90%	7.58%	5.32%
12/4/1986	14.44%	7.58%	6.86%
12/16/1986	13.60%	7.52%	6.08%
12/22/1986	13.80%	7.51%	6.29%
12/30/1986	13.00%	7.49%	5.51%
1/2/1987	13.00%	7.49%	5.51%
1/12/1987	12.40%	7.47%	4.93%
1/27/1987	12.71%	7.46%	5.25%

3/2/1987	12.47%	7.47%	5.00%
3/3/1987	13.60%	7.47%	6.13%
3/4/1987	12.38%	7.47%	4.91%
3/10/1987	13.50%	7.47%	6.03%
3/13/1987	13.00%	7.47%	5.53%
3/31/1987	13.00%	7.46%	5.54%
4/6/1987	13.00%	7.47%	5.53%
4/14/1987	12.50%	7.49%	5.01%
4/16/1987	14.50%	7.50%	7.00%
4/27/1987	12.00%	7.54%	4.46%
5/5/1987	12.85%	7.58%	5.27%
5/12/1987	12.65%	7.62%	5.03%
5/28/1987	13.50%	7.70%	5.80%
6/15/1987	13.20%	7.78%	5.42%
6/29/1987	15.00%	7.83%	7.17%
6/30/1987	12.50%	7.84%	4.66%
7/8/1987	12.00%	7.86%	4.14%
7/10/1987	12.90%	7.86%	5.04%
7/15/1987	13.50%	7.88%	5.62%
7/16/1987	13.50%	7.88%	5.62%
7/16/1987	15.00%	7.88%	7.12%
7/27/1987	13.00%	7.92%	5.08%
7/27/1987	13.40%	7.92%	5.48%
7/27/1987	13.50%	7.92%	5.58%
7/31/1987	12.98%	7.95%	5.03%
8/26/1987	12.63%	8.06%	4.57%
8/26/1987	12.75%	8.06%	4.69%
8/27/1987	13.25%	8.06%	5.19%
9/9/1987	13.00%	8.14%	4.86%
9/30/1987	12.75%	8.31%	4.44%
9/30/1987	13.00%	8.31%	4.69%
10/2/1987	11.50%	8.33%	3.17%
10/15/1987	13.00%	8.43%	4.57%
11/2/1987	13.00%	8.55%	4.45%
11/19/1987	13.00%	8.64%	4.36%
11/30/1987	12.00%	8.68%	3.32%
12/3/1987	14.20%	8.70%	5.50%
12/15/1987	13.25%	8.77%	4.48%
12/16/1987	13.50%	8.78%	4.72%
12/16/1987	13.72%	8.78%	4.94%
12/17/1987	11.75%	8.79%	2.96%
12/18/1987	13.50%	8.80%	4.70%
12/21/1987	12.01%	8.81%	3.20%
12/22/1987	12.00%	8.81%	3.19%
12/22/1987	12.00%	8.81%	3.19%
12/22/1987	12.75%	8.81%	3.94%
12/22/1987	13.00%	8.81%	4.19%
1/20/1988	13.80%	8.94%	4.86%
1/26/1988	13.90%	8.95%	4.95%
1/29/1988	13.20%	8.96%	4.24%
2/4/1988	12.60%	8.96%	3.64%
3/1/1988	11.56%	8.94%	2.62%

3/23/1988	12.87%	8.92%	3.95%
3/24/1988	11.24%	8.92%	2.32%
3/30/1988	12.72%	8.92%	3.80%
4/1/1988	12.50%	8.92%	3.58%
4/7/1988	13.25%	8.93%	4.32%
4/25/1988	10.96%	8.96%	2.00%
5/3/1988	12.91%	8.97%	3.94%
5/11/1988	13.50%	8.99%	4.51%
5/16/1988	13.00%	8.99%	4.01%
6/30/1988	12.75%	9.00%	3.75%
7/1/1988	12.75%	8.99%	3.76%
7/20/1988	13.40%	8.96%	4.44%
8/5/1988	12.75%	8.92%	3.83%
8/23/1988	11.70%	8.93%	2.77%
8/29/1988	12.75%	8.94%	3.81%
8/30/1988	13.50%	8.94%	4.56%
9/8/1988	12.60%	8.95%	3.65%
10/13/1988	13.10%	8.93%	4.17%
12/19/1988	13.00%	9.02%	3.98%
12/20/1988	12.25%	9.02%	3.23%
12/20/1988	13.00%	9.02%	3.98%
12/21/1988	12.90%	9.02%	3.88%
12/27/1988	13.00%	9.03%	3.97%
12/28/1988	13.10%	9.03%	4.07%
12/30/1988	13.40%	9.04%	4.36%
1/27/1989	13.00%	9.05%	3.95%
1/31/1989	13.00%	9.05%	3.95%
2/17/1989	13.00%	9.05%	3.95%
2/20/1989	12.40%	9.05%	3.35%
3/1/1989	12.76%	9.05%	3.71%
3/8/1989	13.00%	9.05%	3.95%
3/30/1989	14.00%	9.05%	4.95%
4/5/1989	14.20%	9.05%	5.15%
4/18/1989	13.00%	9.05%	3.95%
5/5/1989	12.40%	9.05%	3.35%
6/2/1989	13.20%	9.00%	4.20%
6/8/1989	13.50%	8.98%	4.52%
6/27/1989	13.25%	8.91%	4.34%
6/30/1989	13.00%	8.90%	4.10%
8/14/1989	12.50%	8.77%	3.73%
9/28/1989	12.25%	8.63%	3.62%
10/24/1989	12.50%	8.54%	3.96%
11/9/1989	13.00%	8.49%	4.51%
12/15/1989	13.00%	8.34%	4.66%
12/20/1989	12.90%	8.32%	4.58%
12/21/1989	12.90%	8.31%	4.59%
12/27/1989	12.50%	8.29%	4.21%
12/27/1989	13.00%	8.29%	4.71%
1/10/1990	12.80%	8.24%	4.56%
1/11/1990	12.90%	8.24%	4.66%
1/17/1990	12.80%	8.22%	4.58%
1/26/1990	12.00%	8.20%	3.80%

2/9/1990	12.10%	8.17%	3.93%
2/24/1990	12.86%	8.15%	4.71%
3/30/1990	12.90%	8.16%	4.74%
4/4/1990	15.76%	8.17%	7.59%
4/12/1990	12.52%	8.18%	4.34%
4/19/1990	12.75%	8.20%	4.55%
5/21/1990	12.10%	8.28%	3.82%
5/29/1990	12.40%	8.30%	4.10%
5/31/1990	12.00%	8.30%	3.70%
6/4/1990	12.90%	8.30%	4.60%
6/6/1990	12.25%	8.31%	3.94%
6/15/1990	13.20%	8.32%	4.88%
6/20/1990	12.92%	8.32%	4.60%
6/27/1990	12.90%	8.33%	4.57%
6/29/1990	12.50%	8.33%	4.17%
7/6/1990	12.10%	8.34%	3.76%
7/6/1990	12.35%	8.34%	4.01%
8/10/1990	12.55%	8.41%	4.14%
8/16/1990	13.21%	8.43%	4.78%
8/22/1990	13.10%	8.45%	4.65%
8/24/1990	13.00%	8.46%	4.54%
9/26/1990	11.45%	8.59%	2.86%
10/2/1990	13.00%	8.61%	4.39%
10/5/1990	12.84%	8.62%	4.22%
10/19/1990	13.00%	8.67%	4.33%
10/25/1990	12.30%	8.68%	3.62%
11/21/1990	12.70%	8.69%	4.01%
12/13/1990	12.30%	8.67%	3.63%
12/17/1990	12.87%	8.67%	4.20%
12/18/1990	13.10%	8.67%	4.43%
12/19/1990	12.00%	8.66%	3.34%
12/20/1990	12.75%	8.66%	4.09%
12/21/1990	12.50%	8.66%	3.84%
12/27/1990	12.79%	8.66%	4.13%
1/2/1991	13.10%	8.65%	4.45%
1/4/1991	12.50%	8.65%	3.85%
1/15/1991	12.75%	8.64%	4.11%
1/25/1991	11.70%	8.63%	3.07%
2/4/1991	12.50%	8.60%	3.90%
2/7/1991	12.50%	8.59%	3.91%
2/12/1991	13.00%	8.58%	4.43%
2/14/1991	12.72%	8.57%	4.15%
2/22/1991	12.80%	8.55%	4.25%
3/6/1991	13.10%	8.53%	4.57%
3/8/1991	12.30%	8.52%	3.78%
3/8/1991	13.00%	8.52%	4.48%
4/22/1991	13.00%	8.49%	4.51%
5/7/1991	13.50%	8.47%	5.03%
5/13/1991	13.25%	8.47%	4.78%
5/30/1991	12.75%	8.44%	4.31%
6/12/1991	12.00%	8.41%	3.59%
6/25/1991	11.70%	8.39%	3.31%

6/28/1991	12.50%	8.38%	4.12%
7/1/1991	12.00%	8.38%	3.62%
7/3/1991	12.50%	8.37%	4.13%
7/19/1991	12.10%	8.34%	3.76%
8/1/1991	12.90%	8.32%	4.58%
8/16/1991	13.20%	8.29%	4.91%
9/27/1991	12.50%	8.23%	4.27%
9/30/1991	12.25%	8.23%	4.02%
10/17/1991	13.00%	8.20%	4.80%
10/23/1991	12.50%	8.20%	4.30%
10/23/1991	12.55%	8.20%	4.35%
10/31/1991	11.80%	8.19%	3.61%
11/1/1991	12.00%	8.19%	3.81%
11/5/1991	12.25%	8.19%	4.06%
11/12/1991	12.50%	8.18%	4.32%
11/12/1991	13.25%	8.18%	5.07%
11/25/1991	12.40%	8.18%	4.22%
11/26/1991	11.60%	8.18%	3.42%
11/26/1991	12.50%	8.18%	4.32%
11/27/1991	12.10%	8.18%	3.92%
12/18/1991	12.25%	8.15%	4.10%
12/19/1991	12.60%	8.15%	4.45%
12/19/1991	12.80%	8.15%	4.65%
12/20/1991	12.65%	8.14%	4.51%
1/9/1992	12.80%	8.09%	4.71%
1/16/1992	12.75%	8.07%	4.68%
1/21/1992	12.00%	8.06%	3.94%
1/22/1992	13.00%	8.06%	4.94%
1/27/1992	12.65%	8.05%	4.60%
1/31/1992	12.00%	8.04%	3.96%
2/11/1992	12.40%	8.03%	4.37%
2/25/1992	12.50%	8.01%	4.49%
3/16/1992	11.43%	7.98%	3.45%
3/18/1992	12.28%	7.98%	4.30%
4/2/1992	12.10%	7.95%	4.15%
4/9/1992	11.45%	7.94%	3.51%
4/10/1992	11.50%	7.93%	3.57%
4/14/1992	11.50%	7.93%	3.57%
5/5/1992	11.50%	7.89%	3.61%
5/12/1992	11.87%	7.88%	3.99%
5/12/1992	12.46%	7.88%	4.58%
6/1/1992	12.30%	7.87%	4.43%
6/12/1992	10.90%	7.86%	3.04%
6/26/1992	12.35%	7.85%	4.50%
6/29/1992	11.00%	7.85%	3.15%
6/30/1992	13.00%	7.85%	5.15%
7/13/1992	11.90%	7.84%	4.06%
7/13/1992	13.50%	7.84%	5.66%
7/22/1992	11.20%	7.83%	3.37%
8/3/1992	12.00%	7.81%	4.19%
8/6/1992	12.50%	7.80%	4.70%
9/22/1992	12.00%	7.71%	4.29%

9/28/1992	11.40%	7.71%	3.69%
9/30/1992	11.75%	7.70%	4.05%
10/2/1992	13.00%	7.70%	5.30%
10/12/1992	12.20%	7.70%	4.50%
10/16/1992	13.16%	7.70%	5.46%
10/30/1992	11.75%	7.71%	4.04%
11/3/1992	12.00%	7.71%	4.29%
12/3/1992	11.85%	7.68%	4.17%
12/15/1992	11.00%	7.66%	3.34%
12/16/1992	11.90%	7.66%	4.24%
12/16/1992	12.40%	7.66%	4.74%
12/17/1992	12.00%	7.66%	4.34%
12/22/1992	12.30%	7.65%	4.65%
12/22/1992	12.40%	7.65%	4.75%
12/29/1992	12.25%	7.63%	4.62%
12/30/1992	12.00%	7.63%	4.37%
12/31/1992	11.90%	7.63%	4.27%
1/12/1993	12.00%	7.61%	4.39%
1/21/1993	11.25%	7.59%	3.66%
2/2/1993	11.40%	7.56%	3.84%
2/15/1993	12.30%	7.52%	4.78%
2/24/1993	11.90%	7.49%	4.41%
2/26/1993	11.80%	7.48%	4.32%
2/26/1993	12.20%	7.48%	4.72%
4/23/1993	11.75%	7.29%	4.46%
5/11/1993	11.75%	7.25%	4.50%
5/14/1993	11.50%	7.24%	4.26%
5/25/1993	11.50%	7.23%	4.27%
5/28/1993	11.00%	7.22%	3.78%
6/3/1993	12.00%	7.21%	4.79%
6/16/1993	11.50%	7.19%	4.31%
6/18/1993	12.10%	7.18%	4.92%
6/25/1993	11.67%	7.17%	4.50%
7/21/1993	11.38%	7.10%	4.28%
7/23/1993	10.46%	7.09%	3.37%
8/24/1993	11.50%	6.96%	4.54%
9/21/1993	10.50%	6.81%	3.69%
9/29/1993	11.47%	6.77%	4.70%
9/30/1993	11.60%	6.76%	4.84%
11/2/1993	10.80%	6.60%	4.20%
11/12/1993	12.00%	6.57%	5.43%
11/26/1993	11.00%	6.52%	4.48%
12/14/1993	10.55%	6.48%	4.07%
12/16/1993	10.60%	6.48%	4.12%
12/21/1993	11.30%	6.47%	4.83%
1/4/1994	10.07%	6.44%	3.63%
1/13/1994	11.00%	6.42%	4.58%
1/21/1994	11.00%	6.40%	4.60%
1/28/1994	11.35%	6.39%	4.96%
2/3/1994	11.40%	6.38%	5.02%
2/17/1994	10.60%	6.36%	4.24%
2/25/1994	11.25%	6.35%	4.90%

2/25/1994	12.00%	6.35%	5.65%
3/1/1994	11.00%	6.35%	4.65%
3/4/1994	11.00%	6.35%	4.65%
4/25/1994	11.00%	6.41%	4.59%
5/10/1994	11.75%	6.45%	5.30%
5/13/1994	10.50%	6.46%	4.04%
6/3/1994	11.00%	6.54%	4.46%
6/27/1994	11.40%	6.65%	4.75%
8/5/1994	12.75%	6.88%	5.87%
10/31/1994	10.00%	7.33%	2.67%
11/9/1994	10.85%	7.39%	3.46%
11/9/1994	10.85%	7.39%	3.46%
11/18/1994	11.20%	7.45%	3.75%
11/22/1994	11.60%	7.47%	4.13%
11/28/1994	11.06%	7.49%	3.57%
12/8/1994	11.50%	7.54%	3.96%
12/8/1994	11.70%	7.54%	4.16%
12/14/1994	10.95%	7.56%	3.39%
12/15/1994	11.50%	7.57%	3.93%
12/19/1994	11.50%	7.58%	3.92%
12/28/1994	12.15%	7.61%	4.54%
1/9/1995	12.28%	7.64%	4.64%
1/31/1995	11.00%	7.69%	3.31%
2/10/1995	12.60%	7.70%	4.90%
2/17/1995	11.90%	7.70%	4.20%
3/9/1995	11.50%	7.71%	3.79%
3/20/1995	12.00%	7.72%	4.28%
3/23/1995	12.81%	7.72%	5.09%
3/29/1995	11.60%	7.72%	3.88%
4/6/1995	11.10%	7.71%	3.39%
4/7/1995	11.00%	7.71%	3.29%
4/19/1995	11.00%	7.70%	3.30%
5/12/1995	11.63%	7.68%	3.95%
5/25/1995	11.20%	7.65%	3.55%
6/9/1995	11.25%	7.60%	3.65%
6/21/1995	12.25%	7.56%	4.69%
6/30/1995	11.10%	7.52%	3.58%
9/11/1995	11.30%	7.20%	4.10%
9/27/1995	11.30%	7.12%	4.18%
9/27/1995	11.50%	7.12%	4.38%
9/27/1995	11.75%	7.12%	4.63%
9/29/1995	11.00%	7.11%	3.89%
11/9/1995	11.38%	6.90%	4.48%
11/9/1995	12.36%	6.90%	5.46%
11/17/1995	11.00%	6.86%	4.14%
12/4/1995	11.35%	6.78%	4.57%
12/11/1995	11.40%	6.74%	4.66%
12/20/1995	11.60%	6.70%	4.90%
12/27/1995	12.00%	6.66%	5.34%
2/5/1996	12.25%	6.48%	5.77%
3/29/1996	10.67%	6.42%	4.25%
4/8/1996	11.00%	6.42%	4.58%

4/11/1996	12.59%	6.43%	6.16%
4/11/1996	12.59%	6.43%	6.16%
4/24/1996	11.25%	6.43%	4.82%
4/30/1996	11.00%	6.43%	4.57%
5/13/1996	11.00%	6.44%	4.56%
5/23/1996	11.25%	6.43%	4.82%
6/25/1996	11.25%	6.48%	4.77%
6/27/1996	11.20%	6.48%	4.72%
8/12/1996	10.40%	6.57%	3.83%
9/27/1996	11.00%	6.71%	4.29%
10/16/1996	12.25%	6.76%	5.49%
11/5/1996	11.00%	6.81%	4.19%
11/26/1996	11.30%	6.83%	4.47%
12/18/1996	11.75%	6.83%	4.92%
12/31/1996	11.50%	6.83%	4.67%
1/3/1997	10.70%	6.83%	3.87%
2/13/1997	11.80%	6.82%	4.98%
2/20/1997	11.80%	6.82%	4.98%
3/31/1997	10.02%	6.80%	3.22%
4/2/1997	11.65%	6.80%	4.85%
4/28/1997	11.50%	6.81%	4.69%
4/29/1997	11.70%	6.81%	4.89%
7/17/1997	12.00%	6.77%	5.23%
12/12/1997	11.00%	6.60%	4.40%
12/23/1997	11.12%	6.57%	4.55%
2/2/1998	12.75%	6.39%	6.36%
3/2/1998	11.25%	6.29%	4.96%
3/6/1998	10.75%	6.27%	4.48%
3/20/1998	10.50%	6.22%	4.28%
4/30/1998	12.20%	6.12%	6.08%
7/10/1998	11.40%	5.94%	5.46%
9/15/1998	11.90%	5.78%	6.12%
11/30/1998	12.60%	5.58%	7.02%
12/10/1998	12.20%	5.54%	6.66%
12/17/1998	12.10%	5.52%	6.58%
2/5/1999	10.30%	5.38%	4.92%
3/4/1999	10.50%	5.34%	5.16%
4/6/1999	10.94%	5.32%	5.62%
7/29/1999	10.75%	5.52%	5.23%
9/23/1999	10.75%	5.70%	5.05%
11/17/1999	11.10%	5.90%	5.20%
1/7/2000	11.50%	6.05%	5.45%
1/7/2000	11.50%	6.05%	5.45%
2/17/2000	10.60%	6.17%	4.43%
3/28/2000	11.25%	6.20%	5.05%
5/24/2000	11.00%	6.18%	4.82%
7/18/2000	12.20%	6.16%	6.04%
9/29/2000	11.16%	6.03%	5.13%
11/28/2000	12.90%	5.89%	7.01%
11/30/2000	12.10%	5.88%	6.22%
1/23/2001	11.25%	5.79%	5.46%
2/8/2001	11.50%	5.77%	5.73%

5/8/2001	10.75%	5.62%	5.13%
6/26/2001	11.00%	5.62%	5.38%
7/25/2001	11.02%	5.60%	5.42%
7/25/2001	11.02%	5.60%	5.42%
7/31/2001	11.00%	5.59%	5.41%
8/31/2001	10.50%	5.56%	4.94%
9/7/2001	10.75%	5.55%	5.20%
9/10/2001	11.00%	5.55%	5.45%
9/20/2001	10.00%	5.55%	4.45%
10/24/2001	10.30%	5.54%	4.76%
11/28/2001	10.60%	5.49%	5.11%
12/3/2001	12.88%	5.49%	7.39%
12/20/2001	12.50%	5.50%	7.00%
1/22/2002	10.00%	5.50%	4.50%
3/27/2002	10.10%	5.45%	4.65%
4/22/2002	11.80%	5.45%	6.35%
5/28/2002	10.17%	5.46%	4.71%
6/10/2002	12.00%	5.47%	6.53%
6/18/2002	11.16%	5.48%	5.68%
6/20/2002	11.00%	5.48%	5.52%
6/20/2002	12.30%	5.48%	6.82%
7/15/2002	11.00%	5.48%	5.52%
9/12/2002	12.30%	5.45%	6.85%
9/26/2002	10.45%	5.41%	5.04%
12/4/2002	11.55%	5.29%	6.26%
12/13/2002	11.75%	5.27%	6.48%
12/20/2002	11.40%	5.25%	6.15%
1/8/2003	11.10%	5.19%	5.91%
1/31/2003	12.45%	5.13%	7.32%
2/28/2003	12.30%	5.05%	7.25%
3/6/2003	10.75%	5.03%	5.72%
3/7/2003	9.96%	5.02%	4.94%
3/20/2003	12.00%	4.98%	7.02%
4/3/2003	12.00%	4.96%	7.04%
4/15/2003	11.15%	4.94%	6.21%
6/25/2003	10.75%	4.79%	5.96%
6/26/2003	10.75%	4.79%	5.96%
7/9/2003	9.75%	4.79%	4.96%
7/16/2003	9.75%	4.79%	4.96%
7/25/2003	9.50%	4.80%	4.70%
8/26/2003	10.50%	4.83%	5.67%
12/17/2003	9.85%	4.94%	4.91%
12/17/2003	10.70%	4.94%	5.76%
12/18/2003	11.50%	4.94%	6.56%
12/19/2003	12.00%	4.94%	7.06%
12/19/2003	12.00%	4.94%	7.06%
12/23/2003	10.50%	4.94%	5.56%
1/13/2004	12.00%	4.95%	7.05%
3/2/2004	10.75%	4.99%	5.76%
3/26/2004	10.25%	5.02%	5.23%
4/5/2004	11.25%	5.03%	6.22%
5/18/2004	10.50%	5.07%	5.43%

5/25/2004	10.25%	5.08%	5.17%
5/27/2004	10.25%	5.08%	5.17%
6/2/2004	11.22%	5.08%	6.14%
6/30/2004	10.50%	5.10%	5.40%
6/30/2004	10.50%	5.10%	5.40%
7/16/2004	11.60%	5.11%	6.49%
8/25/2004	10.25%	5.10%	5.15%
9/9/2004	10.40%	5.10%	5.30%
11/9/2004	10.50%	5.07%	5.43%
11/23/2004	11.00%	5.06%	5.94%
12/14/2004	10.97%	5.07%	5.90%
12/21/2004	11.25%	5.07%	6.18%
12/21/2004	11.50%	5.07%	6.43%
12/22/2004	10.70%	5.07%	5.63%
12/22/2004	11.50%	5.07%	6.43%
12/29/2004	9.85%	5.07%	4.78%
1/6/2005	10.70%	5.08%	5.62%
2/18/2005	10.30%	4.98%	5.32%
2/25/2005	10.50%	4.96%	5.54%
3/10/2005	11.00%	4.93%	6.07%
3/24/2005	10.30%	4.90%	5.40%
4/4/2005	10.00%	4.88%	5.12%
4/7/2005	10.25%	4.87%	5.38%
5/18/2005	10.25%	4.78%	5.47%
5/25/2005	10.75%	4.76%	5.99%
5/26/2005	9.75%	4.76%	4.99%
6/1/2005	9.75%	4.75%	5.00%
7/19/2005	11.50%	4.64%	6.86%
8/5/2005	11.75%	4.62%	7.13%
8/15/2005	10.13%	4.61%	5.52%
9/28/2005	10.00%	4.54%	5.46%
10/4/2005	10.75%	4.54%	6.21%
12/12/2005	11.00%	4.55%	6.45%
12/13/2005	10.75%	4.55%	6.20%
12/21/2005	10.29%	4.54%	5.75%
12/21/2005	10.40%	4.54%	5.86%
12/22/2005	11.00%	4.54%	6.46%
12/22/2005	11.15%	4.54%	6.61%
12/28/2005	10.00%	4.54%	5.46%
12/28/2005	10.00%	4.54%	5.46%
1/5/2006	11.00%	4.53%	6.47%
1/27/2006	9.75%	4.52%	5.23%
3/3/2006	10.39%	4.53%	5.86%
4/17/2006	10.20%	4.61%	5.59%
4/26/2006	10.60%	4.64%	5.96%
5/17/2006	11.60%	4.69%	6.91%
6/6/2006	10.00%	4.74%	5.26%
6/27/2006	10.75%	4.80%	5.95%
7/6/2006	10.20%	4.83%	5.37%
7/24/2006	9.60%	4.86%	4.74%
7/26/2006	10.50%	4.86%	5.64%
7/28/2006	10.05%	4.86%	5.19%

8/23/2006	9.55%	4.89%	4.66%
9/1/2006	10.54%	4.90%	5.64%
9/14/2006	10.00%	4.91%	5.09%
10/6/2006	9.67%	4.92%	4.75%
11/21/2006	10.08%	4.95%	5.13%
11/21/2006	10.08%	4.95%	5.13%
11/21/2006	10.12%	4.95%	5.17%
12/1/2006	10.25%	4.95%	5.30%
12/1/2006	10.50%	4.95%	5.55%
12/7/2006	10.75%	4.95%	5.80%
12/21/2006	10.90%	4.95%	5.95%
12/21/2006	11.25%	4.95%	6.30%
12/22/2006	10.25%	4.95%	5.30%
1/5/2007	10.00%	4.95%	5.05%
1/11/2007	10.10%	4.95%	5.15%
1/11/2007	10.10%	4.95%	5.15%
1/11/2007	10.90%	4.95%	5.95%
1/12/2007	10.10%	4.95%	5.15%
1/13/2007	10.40%	4.95%	5.45%
1/19/2007	10.80%	4.94%	5.86%
3/21/2007	11.35%	4.87%	6.48%
3/22/2007	9.75%	4.86%	4.89%
5/15/2007	10.00%	4.81%	5.19%
5/17/2007	10.25%	4.81%	5.44%
5/17/2007	10.25%	4.81%	5.44%
5/22/2007	10.20%	4.80%	5.40%
5/22/2007	10.50%	4.80%	5.70%
5/23/2007	10.70%	4.80%	5.90%
5/25/2007	9.67%	4.80%	4.87%
6/15/2007	9.90%	4.82%	5.08%
6/21/2007	10.20%	4.83%	5.37%
6/22/2007	10.50%	4.83%	5.67%
6/28/2007	10.75%	4.84%	5.91%
7/12/2007	9.67%	4.86%	4.81%
7/19/2007	10.00%	4.87%	5.13%
7/19/2007	10.00%	4.87%	5.13%
8/15/2007	10.40%	4.88%	5.52%
10/9/2007	10.00%	4.91%	5.09%
10/17/2007	9.10%	4.91%	4.19%
10/31/2007	9.96%	4.90%	5.06%
11/29/2007	10.90%	4.87%	6.03%
12/6/2007	10.75%	4.86%	5.89%
12/13/2007	9.96%	4.86%	5.10%
12/14/2007	10.70%	4.86%	5.84%
12/14/2007	10.80%	4.86%	5.94%
12/19/2007	10.20%	4.86%	5.34%
12/20/2007	10.20%	4.85%	5.35%
12/20/2007	11.00%	4.85%	6.15%
12/28/2007	10.25%	4.85%	5.40%
12/31/2007	11.25%	4.85%	6.40%
1/8/2008	10.75%	4.83%	5.92%
1/17/2008	10.75%	4.81%	5.94%

1/28/2008	9.40%	4.80%	4.60%
1/30/2008	10.00%	4.79%	5.21%
1/31/2008	10.71%	4.79%	5.92%
2/29/2008	10.25%	4.75%	5.50%
3/12/2008	10.25%	4.73%	5.52%
3/25/2008	9.10%	4.68%	4.42%
4/22/2008	10.25%	4.60%	5.65%
4/24/2008	10.10%	4.60%	5.50%
5/1/2008	10.70%	4.59%	6.11%
5/19/2008	11.00%	4.56%	6.44%
5/27/2008	10.00%	4.55%	5.45%
6/10/2008	10.70%	4.54%	6.16%
6/27/2008	10.50%	4.54%	5.96%
6/27/2008	11.04%	4.54%	6.50%
7/10/2008	10.43%	4.52%	5.91%
7/16/2008	9.40%	4.52%	4.88%
7/30/2008	10.80%	4.51%	6.29%
7/31/2008	10.70%	4.51%	6.19%
8/11/2008	10.25%	4.51%	5.74%
8/26/2008	10.18%	4.50%	5.68%
9/10/2008	10.30%	4.50%	5.80%
9/24/2008	10.65%	4.48%	6.17%
9/24/2008	10.65%	4.48%	6.17%
9/24/2008	10.65%	4.48%	6.17%
9/30/2008	10.20%	4.48%	5.72%
10/8/2008	10.15%	4.46%	5.69%
11/13/2008	10.55%	4.45%	6.10%
11/17/2008	10.20%	4.44%	5.76%
12/1/2008	10.25%	4.40%	5.85%
12/23/2008	11.00%	4.27%	6.73%
12/29/2008	10.00%	4.24%	5.76%
12/29/2008	10.20%	4.24%	5.96%
12/31/2008	10.75%	4.22%	6.53%
1/14/2009	10.50%	4.15%	6.35%
1/21/2009	10.50%	4.12%	6.38%
1/21/2009	10.50%	4.12%	6.38%
1/21/2009	10.50%	4.12%	6.38%
1/27/2009	10.76%	4.09%	6.67%
1/30/2009	10.50%	4.08%	6.42%
2/4/2009	8.75%	4.06%	4.69%
3/4/2009	10.50%	3.96%	6.54%
3/12/2009	11.50%	3.93%	7.57%
4/2/2009	11.10%	3.85%	7.25%
4/21/2009	10.61%	3.80%	6.81%
4/24/2009	10.00%	3.79%	6.21%
4/30/2009	11.25%	3.78%	7.47%
5/4/2009	10.74%	3.77%	6.97%
5/20/2009	10.25%	3.74%	6.51%
5/28/2009	10.50%	3.74%	6.76%
6/22/2009	10.00%	3.76%	6.24%
6/24/2009	10.80%	3.77%	7.03%
7/8/2009	10.63%	3.77%	6.86%

7/17/2009	10.50%	3.78%	6.72%
8/31/2009	10.25%	3.82%	6.43%
10/14/2009	10.70%	4.01%	6.69%
10/23/2009	10.88%	4.06%	6.82%
11/2/2009	10.70%	4.09%	6.61%
11/3/2009	10.70%	4.10%	6.60%
11/24/2009	10.25%	4.15%	6.10%
11/25/2009	10.75%	4.16%	6.59%
11/30/2009	10.35%	4.17%	6.18%
12/3/2009	10.50%	4.18%	6.32%
12/7/2009	10.70%	4.18%	6.52%
12/16/2009	10.90%	4.21%	6.69%
12/16/2009	11.00%	4.21%	6.79%
12/18/2009	10.40%	4.22%	6.18%
12/18/2009	10.40%	4.22%	6.18%
12/22/2009	10.20%	4.23%	5.97%
12/22/2009	10.40%	4.23%	6.17%
12/22/2009	10.40%	4.23%	6.17%
12/30/2009	10.00%	4.26%	5.74%
1/4/2010	10.80%	4.28%	6.52%
1/11/2010	11.00%	4.30%	6.70%
1/26/2010	10.13%	4.35%	5.78%
1/27/2010	10.40%	4.35%	6.05%
1/27/2010	10.40%	4.35%	6.05%
1/27/2010	10.70%	4.35%	6.35%
2/9/2010	9.80%	4.38%	5.42%
2/18/2010	10.60%	4.40%	6.20%
2/24/2010	10.18%	4.41%	5.77%
3/2/2010	9.63%	4.41%	5.22%
3/4/2010	10.50%	4.41%	6.09%
3/5/2010	10.50%	4.41%	6.09%
3/11/2010	11.90%	4.42%	7.48%
3/17/2010	10.00%	4.41%	5.59%
3/25/2010	10.15%	4.42%	5.73%
4/2/2010	10.10%	4.43%	5.67%
4/27/2010	10.00%	4.46%	5.54%
4/29/2010	9.90%	4.46%	5.44%
4/29/2010	10.06%	4.46%	5.60%
4/29/2010	10.26%	4.46%	5.80%
5/12/2010	10.30%	4.45%	5.85%
5/12/2010	10.30%	4.45%	5.85%
5/28/2010	10.10%	4.44%	5.66%
5/28/2010	10.20%	4.44%	5.76%
6/7/2010	10.30%	4.44%	5.86%
6/16/2010	10.00%	4.44%	5.56%
6/28/2010	9.67%	4.43%	5.24%
6/28/2010	10.50%	4.43%	6.07%
6/30/2010	9.40%	4.43%	4.97%
7/1/2010	10.25%	4.43%	5.82%
7/15/2010	10.53%	4.43%	6.10%
7/15/2010	10.70%	4.43%	6.27%
7/30/2010	10.70%	4.41%	6.29%

8/4/2010	10.50%	4.41%	6.09%
8/6/2010	9.83%	4.41%	5.42%
8/25/2010	9.90%	4.37%	5.53%
9/3/2010	10.60%	4.35%	6.25%
9/14/2010	10.70%	4.33%	6.37%
9/16/2010	10.00%	4.33%	5.67%
9/16/2010	10.00%	4.33%	5.67%
9/30/2010	9.75%	4.29%	5.46%
10/14/2010	10.35%	4.24%	6.11%
10/28/2010	10.70%	4.21%	6.49%
11/2/2010	10.38%	4.20%	6.18%
11/4/2010	10.70%	4.20%	6.50%
11/19/2010	10.20%	4.18%	6.02%
11/22/2010	10.00%	4.18%	5.82%
12/1/2010	10.13%	4.16%	5.97%
12/6/2010	9.86%	4.15%	5.71%
12/9/2010	10.25%	4.15%	6.10%
12/13/2010	10.70%	4.15%	6.55%
12/14/2010	10.13%	4.15%	5.98%
12/15/2010	10.44%	4.15%	6.29%
12/17/2010	10.00%	4.15%	5.85%
12/20/2010	10.60%	4.15%	6.45%
12/21/2010	10.30%	4.14%	6.16%
12/27/2010	9.90%	4.14%	5.76%
12/29/2010	11.15%	4.14%	7.01%
1/5/2011	10.15%	4.13%	6.02%
1/12/2011	10.30%	4.12%	6.18%
1/13/2011	10.30%	4.12%	6.18%
1/18/2011	10.00%	4.12%	5.88%
1/20/2011	9.30%	4.12%	5.18%
1/20/2011	10.13%	4.12%	6.01%
1/31/2011	9.60%	4.12%	5.48%
2/3/2011	10.00%	4.12%	5.88%
2/25/2011	10.00%	4.14%	5.86%
3/25/2011	9.80%	4.18%	5.62%
3/30/2011	10.00%	4.18%	5.82%
4/12/2011	10.00%	4.21%	5.79%
4/25/2011	10.74%	4.23%	6.51%
4/26/2011	9.67%	4.23%	5.44%
4/27/2011	10.40%	4.24%	6.16%
5/4/2011	10.00%	4.24%	5.76%
5/4/2011	10.00%	4.24%	5.76%
5/24/2011	10.50%	4.27%	6.23%
6/8/2011	10.75%	4.30%	6.45%
6/16/2011	9.20%	4.32%	4.88%
6/17/2011	9.95%	4.32%	5.63%
7/13/2011	10.20%	4.36%	5.84%
8/1/2011	9.20%	4.39%	4.81%
8/8/2011	10.00%	4.38%	5.62%
8/11/2011	10.00%	4.38%	5.62%
8/12/2011	10.35%	4.37%	5.98%
8/19/2011	10.25%	4.36%	5.89%

9/2/2011	12.88%	4.32%	8.56%
9/22/2011	10.00%	4.24%	5.76%
10/12/2011	10.30%	4.14%	6.16%
10/20/2011	10.50%	4.10%	6.40%
11/30/2011	10.90%	3.87%	7.03%
11/30/2011	10.90%	3.87%	7.03%
12/14/2011	10.00%	3.80%	6.20%
12/14/2011	10.30%	3.80%	6.50%
12/20/2011	10.20%	3.76%	6.44%
12/21/2011	10.20%	3.76%	6.44%
12/22/2011	9.90%	3.75%	6.15%
12/22/2011	10.40%	3.75%	6.65%
12/23/2011	10.19%	3.74%	6.45%
1/25/2012	10.50%	3.57%	6.93%
1/27/2012	10.50%	3.56%	6.94%
2/15/2012	10.20%	3.47%	6.73%
2/23/2012	9.90%	3.44%	6.46%
2/27/2012	10.25%	3.43%	6.82%
2/29/2012	10.40%	3.41%	6.99%
3/29/2012	10.37%	3.32%	7.05%
4/4/2012	10.00%	3.30%	6.70%
4/26/2012	10.00%	3.21%	6.79%
5/2/2012	10.00%	3.18%	6.82%
5/7/2012	9.80%	3.17%	6.63%
5/15/2012	10.00%	3.14%	6.86%
5/29/2012	10.05%	3.11%	6.94%
6/7/2012	10.30%	3.08%	7.22%
6/14/2012	9.40%	3.06%	6.34%
6/15/2012	10.40%	3.06%	7.34%
6/18/2012	9.60%	3.06%	6.54%
6/19/2012	9.25%	3.05%	6.20%
6/26/2012	10.10%	3.04%	7.06%
6/29/2012	10.00%	3.04%	6.96%
7/9/2012	10.20%	3.03%	7.17%
7/16/2012	9.80%	3.02%	6.78%
7/20/2012	9.31%	3.01%	6.30%
7/20/2012	9.81%	3.01%	6.80%
9/13/2012	9.80%	2.94%	6.86%
9/19/2012	9.80%	2.94%	6.86%
9/19/2012	10.05%	2.94%	7.11%
9/26/2012	9.50%	2.94%	6.56%
10/12/2012	9.60%	2.93%	6.67%
10/23/2012	9.75%	2.93%	6.82%
10/24/2012	10.30%	2.93%	7.37%
11/9/2012	10.30%	2.92%	7.38%
11/28/2012	10.40%	2.90%	7.50%
11/29/2012	9.75%	2.89%	6.86%
11/29/2012	9.88%	2.89%	6.99%
12/5/2012	9.71%	2.89%	6.82%
12/5/2012	10.40%	2.89%	7.51%
12/12/2012	9.80%	2.88%	6.92%
12/13/2012	9.50%	2.88%	6.62%

12/13/2012	10.50%	2.88%	7.62%
12/14/2012	10.40%	2.88%	7.52%
12/19/2012	9.71%	2.87%	6.84%
12/19/2012	10.25%	2.87%	7.38%
12/20/2012	9.50%	2.87%	6.63%
12/20/2012	9.80%	2.87%	6.93%
12/20/2012	10.25%	2.87%	7.38%
12/20/2012	10.25%	2.87%	7.38%
12/20/2012	10.30%	2.87%	7.43%
12/20/2012	10.40%	2.87%	7.53%
12/20/2012	10.45%	2.87%	7.58%
12/21/2012	10.20%	2.87%	7.33%
12/26/2012	9.80%	2.86%	6.94%
1/9/2013	9.70%	2.85%	6.85%
1/9/2013	9.70%	2.85%	6.85%
1/9/2013	9.70%	2.85%	6.85%
1/16/2013	9.60%	2.84%	6.76%
1/16/2013	9.60%	2.84%	6.76%
2/13/2013	10.20%	2.84%	7.36%
2/22/2013	9.75%	2.85%	6.90%
2/27/2013	10.00%	2.86%	7.14%
3/14/2013	9.30%	2.88%	6.42%
3/27/2013	9.80%	2.90%	6.90%
5/1/2013	9.84%	2.94%	6.90%
5/15/2013	10.30%	2.96%	7.34%
5/30/2013	10.20%	2.98%	7.22%
5/31/2013	9.00%	2.98%	6.02%
6/11/2013	10.00%	3.00%	7.00%
6/21/2013	9.75%	3.02%	6.73%
6/25/2013	9.80%	3.03%	6.77%
7/12/2013	9.36%	3.07%	6.29%
8/8/2013	9.83%	3.14%	6.69%
8/14/2013	9.15%	3.16%	5.99%
9/11/2013	10.20%	3.26%	6.94%
9/11/2013	10.25%	3.26%	6.99%
9/24/2013	10.20%	3.31%	6.89%
10/3/2013	9.65%	3.33%	6.32%
11/6/2013	10.20%	3.41%	6.79%
11/21/2013	10.00%	3.44%	6.56%
11/26/2013	10.00%	3.45%	6.55%
12/3/2013	10.25%	3.47%	6.78%
12/4/2013	9.50%	3.47%	6.03%
12/5/2013	10.20%	3.48%	6.72%
12/9/2013	8.72%	3.48%	5.24%
12/9/2013	9.75%	3.48%	6.27%
12/13/2013	9.75%	3.50%	6.25%
12/16/2013	9.95%	3.50%	6.45%
12/16/2013	9.95%	3.50%	6.45%
12/16/2013	10.12%	3.50%	6.62%
12/17/2013	9.50%	3.51%	5.99%
12/17/2013	10.95%	3.51%	7.44%
12/18/2013	8.72%	3.51%	5.21%